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FIRST LINES
OF THE
PRACTICE OF PHYSIC.

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OF THE

PRACTICE OF PHYSIC.

BY

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IN FOUR VOLUMES.

WITH PRACTICAL AND EXPLANATORY NOTES,
BY
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VOL. III.

EDINBURGH:
Printed for Bell & Bradfute, and William Creech,
Edinburgh; G. G. J. & J. Robinsons, and
J. Murray, *London*.

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* Though I have thought it proper to divide this book into ſections, I think it neceſſary, for the convenience of references, to number the chapters from the beginning.—*Author.*

FIRST LINES

OF THE

PRACTICE OF PHYSIC.

PART I. BOOK IV.

CHAP. VI.

OF THE MENORRHAGIA,

OR THE

IMMODERATE FLOW OF THE MENSES.

966. BLOOD diſcharged from the vagina may proceed from different ſources in the internal parts: but I here mean to treat of thoſe diſcharges only, in

which the blood may be preſumed to flow from the ſame ſources that the menſes in their natural ſtate proceed from; and which diſcharges alone, are thoſe properly comprehended under the preſent title. The title of *Metrorrhagia*, or *hæmorrhagia uteri*, might comprehend a great deal more.

967. The menorrhagia may be conſidered as of two kinds; either as it happens to pregnant and lying-in women, or as it happens to women neither pregnant nor having recently born children. The firſt kind, as connected with the circumſtances of pregnancy and child bearing (which are not to be treated of in the preſent courſe), I am not to conſider here, but ſhall confine myſelf to the ſecond kind of menorrhagia only.

968. The flow of the menſes is conſidered as immoderate, when it recurs more frequently *, when it continues longer, or

---

* The uſual period is from twenty-ſeven to thirty days.

when, during the ordinary continuance *, it is more abundant † than is uſual with the ſame perſon at other times.

969. As the moſt part of women are liable to ſome inequality with reſpect to the period, the duration, and the quantity of their menſes; ſo it is not every inequality in theſe reſpects that is to be conſidered as a diſeaſe; but only thoſe deviations, which are exceſſive in degree, which are permanent, and which induce a manifeſt ſtate of debility.

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* The time of its continuance is very various in different people; it ſeldom continues longer than eight days, or ſhorter than two. In general, women of a lax and delicate conſtitution have a more copious and a longer continued diſcharge than robuſt people.

† It is extremely difficult to aſcertain preciſely what quantity is uſually diſcharged; but the women themſelves can generally inform the phyſician with ſufficient exactneſs for regulating the practice whether the diſcharge be immoderate.

970. The circumſtances (968. 969.) are thoſe which chiefly conſtitute the menorrhagia: but it is proper to obſerve, that although I allow the frequency, duration, and quantity of the menſes to be judged of by what is uſual with the ſame individual at other times; yet there is, in theſe particulars, ſo much uniformity obſervable in the whole of the ſex, that in any individual in whom there occurs a conſiderable deviation from the common meaſure, ſuch a deviation, if conſtantly recurring, may be conſidered as at leaſt approaching to a morbid ſtate, and as requiring moſt of the precautions which I ſhall hereafter mention as neceſſary to be attended to by thoſe who are actually in ſuch a ſtate.

971. However we may determine with reſpect to the circumſtances 968. 969. it muſt ſtill be allowed, that the immoderate flow of the menſes is eſpecially to be determined by thoſe ſymptoms affecting other

functions of the body, which accompany and follow the diſcharge.

When a larger flow than uſual of the menſes has been preceded by headach, giddineſs, or dyſpnœa, and has been uſhered in by a cold ſtage, and is attended with much pain of the back and loins, with a frequent pulſe, heat, and thirſt, it may then be conſidered as preternaturally large.

972. When, in conſequence of the circumſtances 968.—971. and the repetition of theſe, the face becomes pale ; the pulſe grows weak ; an unuſual debility is felt in exerciſe ; the breathing is hurried by moderate exerciſe ; when, alſo, the back becomes pained from any continuance in an erect poſture; when the extremities become frequently cold ; and when in the evening the feet appear affected with œdematous ſwelling ; we may from theſe ſymptoms certainly conclude, that the flow of the

menſes has been immoderate, and has already induced a dangerous ſtate of debility.

973. The debility, thus induced, does often diſcover itſelf alſo by affections of the ſtomach, as anorexia and other ſymptoms of dyſpepſia; by a palpitation of the heart, and frequent faintings; by a weakneſs of mind liable to ſtrong emotions from ſlight cauſes, eſpecially when ſuddenly preſented.

974. That flow of the menſes, which is attended with barrenneſs in married women, may be generally conſidered as immoderate and morbid.

975 Generally, alſo, that flow of the menſes may be conſidered as immoderate, which is preceded and followed by a leucorrhœa.

976. I treat of menorrhagia here as an active hemorrhagy, becauſe I conſider menſtruation,

ſtruation, in its natural ſtate, to be always of that kind; and although there ſhould be caſes of menorrhagia which might be conſidered as purely paſſive, it appears to me that they cannot be ſo properly treated of in any other place.

977. The menorrhagia (968. *et ſeq.*) has for its proximate cauſe, either the hemorrhagic effort of the uterine veſſels preternaturally increaſed, or a preternatural laxity of the extremities of the uterine arteries, the hemorrhagic effort remaining as in the natural ſtate.

978. The remote cauſes of the menorrhagia may be,

1*ſt*, Thoſe which increaſe the plethoric ſtate of the uterine veſſels; ſuch as a full and nouriſhing diet, much ſtrong liquor, and frequent intoxication.

2*dly*, Thoſe which determine the blood

more copiouſly and forcibly into the uterine veſſels; as violent ſtrainings of the whole body; violent ſhocks of the whole body from falls; violent ſtrokes or contuſions on the lower belly; violent exerciſe, particularly in dancing; and violent paſſions of the mind.

3dly, Thoſe which particularly irritate the veſſels of the uterus; as exceſs in venery; the exerciſe of venery in the time of menſtruation; a coſtive habit, giving occaſion to violent ſtraining at ſtool; and cold applied to the feet *.

---

* It is difficult to account for this cauſe of menorrhagia: It may perhaps be owing to the circulation through the lower extremities being obſtructed or impeded, and conſequently a greater flow of blood to the uterus. The fact, however, is certain; for experience ſufficiently evinces that menorrhagia frequently follows an imprudent expoſure of the feet to cold, eſpecially damp cold. Sitting in wet ſhoes, or in a damp cold room with a ſtone floor, ought to be carefully avoided by ladies of a delicate conſtitution.

4thly, Thoſe who have forcibly overſtrained the extremities of the uterine veſſels; as frequent abortions; frequent child-bearing without nurſing *; and difficult tedious labours. Or,

Laſtly, Thoſe which induce a general laxity; as living much in warm chambers, and drinking much of warm enervating liquors, ſuch as tea and coffee.

---

* By nurſing, the fluids are determined to the breaſt, and in a peculiar manner derived from the uterus This part of the economy of nature phyſiologiſts have not yet ſufficiently explained, but the fact is well aſcertained.

Nurſing is not only uſeful in preventing menorrhagia, but, as it derives the fluids from the uterus, it prevents alſo frequent child-bearing; and conſequently, which is the greateſt advantage of all others, time is allowed to the uterus for regaining its former tone and ſtrength: The ſubſequent child-births are alſo rendered more eaſy than they would otherwiſe be, and the children more healthy.

It would be improper to enumerate all the advantages of nurſing in this place, as I ſhall reſerve the conſideration of them for a future publication.

979. The effects of the menorrhagia are pointed out in 972. 973. where I have mentioned the ſeveral ſymptoms accompanying the diſeaſe; and from theſe the conſequences to be apprehended will alſo readily appear.

980. The treatment and cure of the menorrhagia muſt be different, according to the different cauſes of the diſeaſe.

In all caſes, the firſt attention ought to be given to avoiding the remote cauſes, whenever that can be done; and by that means the diſeaſe may be often entirely avoided.

When the remote cauſes cannot be avoided, or when the avoiding them has been neglected, and therefore a copious menſtruation has come on, it ſhould be moderated as much as poſſible, by abſtaining from all exerciſe, either at the coming on, or during the continuance of the menſtruation; by avoiding even an erect poſture as much as poſſible; by ſhunning external heat, and therefore warm chambers and ſoft beds; by uſing a light and cool diet; by taking cold drink, at leaſt as far as former habits will allow; by avoiding venery; by obviating coſtiveneſs, or removing it by laxatives that give little ſtimulus *.

The

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* The laxatives that give little ſtimulus are manna, oil, tamarinds, caſſia, and ſuch mild ſubſtances. Aloetic, and other draſtic purges, muſt be carefully avoided. Rhubarb, in moderate doſes, is only admiſſible in caſes where there is an evident atony of the ſtomach or inteſtines; and in theſe caſes it ought to be given in ſubſtance, or in a watery infuſion. The ſpirituous and vinous tinctures of it are abſolutely inadmiſſible in menorrhagia.

A

The ſex are commonly negligent, either in avoiding the remote cauſes, or in moderating the firſt beginnings of this diſeaſe. It is by ſuch neglect that it ſo frequently becomes violent, and of difficult cure; and the frequent repetition of a copious menſtruation may be conſidered as a cauſe of great laxity in the extreme veſſels of the uterus.

981. When the coming on of the menſtruation has been preceded by ſome diſorder in other parts of the body, and is accompanied with pains of the back, reſembling parturient pains, together with febrile ſymp-

A table-ſpoonful of the following linctus, taken occaſionally, will ſufficiently obviate coſtiveneſs, without giving much ſtimulus :

℞. Mann. opt. ℥ij.
Ol. ricini ℥i.
Syr. roſar. ſolut. ℥i.
Crem. tartar. ℥ſs.
M. f. Linct.

ſymptoms, and when at the ſame time the flow ſeems to be copious, then a bleeding at the arm may be proper, but it is not often neceſſary; and it will in moſt caſes be ſufficient to employ, with great attention and diligence, thoſe means for moderating the diſcharge which have been mentioned in the laſt paragraph.

982. When the immoderate flow of the menſes ſhall ſeem to be owing to a laxity of the veſſels of the uterus, as may be concluded from the general debility and laxity of the perſon's habit; from the remote cauſes that have occaſioned the diſeaſe (978.); from the abſence of the ſymptoms which denote increaſed action in the veſſels of the uterus (971.); from the frequent recurrence of the diſeaſe; and particularly from this, that in the intervals of menſtruation the perſon is liable to a leucorrhœa; then, in ſuch caſe, the diſeaſe is to be treated, not only by employing all the means mention-

ed in (980.) for moderating the hemorrhagy, but alſo by avoiding all irritation, every irritation having the greater effect in proportion as the veſſels have been more lax and yielding. If, in ſuch a caſe of laxity, it ſhall appear that ſome degree of irritation concurs, opiates may be employed to moderate the diſcharge ; but in uſing theſe much caution is requiſite *.

If, notwithſtanding theſe meaſures having been taken, the diſcharge ſhall prove very large, aſtringents †, both external and internal,

---

* Opiates uſed too liberally generally increaſe the diſcharge, in conſequence of their very great power in relaxing the whole ſyſtem.

† The aſtringents for internal uſe are, alum, catechu, tincture of roſes, &c. Ten grains of alum, and as much catechu may be given in a powder, every two or three hours, with three or four ſpoonfuls of tincture of roſes to waſh it down. The bark is ſometimes of uſe in

internal, may be employed. In ſuch caſes, may ſmall doſes of emetics be of ſervice?

983. When the menorrhagia depends on the laxity of the uterine veſſels, it will be proper, in the intervals of menſtruation, to employ tonic remedies, as cold bathing and chalybeates *. The exerciſes of geſtation

alſo

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in theſe caſes, eſpecially when joined with alum. The external applications are, cold clothes ſoaked in vinegar and water applied to the lower region of the abdomen, or to the pudenda; or a ſtrong decoction of oak-bark, with an ounce of alum diſſolved in every pint of it, may be applied cold to the ſame parts.

* The following form is very convenient:

℞. Rubigin. ferri ʒij.
Cort. Peruv. ℥i.
Syr. ſimpl q. s.
M. f. Elect.

The doſe of this electuary is to be varied according

to

alſo may be very uſeful, both for ſtrengthening the whole ſyſtem, and for taking off

to the conſtitution ; the ſize of a nutmeg twice a day is uſually given.

The beſt forms of chalybeates, in theſe caſes, are the mineral waters which contain iron diſſolved by fixed air. Chalybeate waters ſhould not, in this diſeaſe, be drank in ſuch large quantities as to paſs off by ſtool. A gill taken every three or four hours throughout the day, with a ſpoonful of Port wine, is more efficacious than a pint, or even a quart, taken at once in the morning. The doſe, however, of theſe waters, varies according to the ſtrength of the particular water we uſe. Along with the chalybeate water, a ſcruple or half a dram of Peruvian bark may be given twice a-day.

The following form is very agreeable, and is at the ſame time ſingularly efficacious :

℞. Extract. cort. Peruv. ℥i.
Extract. Campechenſ.
Extract. Glychyrrh. *aa* ℥ſs.
Mucilag. gum. Arab. q. s.
M. f. Elect.

The doſe is half a dram or two ſcruples twice a-day.

off the determination of the blood to the internal parts.

984. The remedies mentioned in theſe two laſt paragraphs may be employed in all caſes of menorrhagia, from whatever cauſe it may have proceeded, if the diſeaſe ſhall have already induced a conſiderable degree of debility in the body.

CHAP. VII.

OF THE

LEUCORRHŒA, FLUOR ALBUS,

OR

WHITES.

985. EVERY ſerous or puriform diſcharge from the vagina may be, and has been, comprehended under one or other of the appellations I have prefixed to this chapter. Such diſcharges, however,

ever, may be various, and may proceed from various ſources, not yet well aſcertained: But I confine myſelf here to treat of that diſcharge alone which may be preſumed to proceed from the ſame veſſels, which, in their natural ſtate, pour out the menſes.

986. I conclude a diſcharge from the vagina to be of this kind*; 1. From its happening to women who are ſubject to an immoderate flow of the menſes, and liable to this from cauſes weakening the veſſels of the uterus. 2. From its appearing chiefly, and often only a little before, as well as immediately after, the flow of the menſes. 3. From the flow of the menſes being diminiſhed, in proportion as the leucorrhœa

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* The young practitioner ought to pay great attention to the diagnoſtics of the leucorrhœa delivered in this article.

corrhœa is increaſed. 4. From the leucorrhœa continuing after the menſes have entirely ceaſed, and with ſome appearance of its obſerving a periodical recurrence. 5. From the leucorrhœa being accompanied with the effects of the menorrhagia (972. 973.). 6. From the diſcharge having been neither preceded by, nor accompanied with, ſymptoms of any topical affections of the uterus. 7. From the leucorrhœa not having appeared ſoon after communication with a perſon who might be ſuſpected of communicating infection, and from the firſt appearance of the diſeaſe not being accompanied with any inflammatory affection of the pudenda *.

987.

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* Nothing is more frequent with ignorant practitioners than to miſtake a gonorrhœa for a leucorrhœa. Women in general give the name of Whites to a gonorrhœa, and therefore the unwary practitioner may the more eaſily be miſled. The diſtinguiſhing characteriſtic

987. The appearance of the matter diſcharged in the leucorrhœa is very various with reſpect to conſiſtence and colour; but, from theſe appearances, it is not always poſſible to determine concerning its nature, or the particular ſource from whence it proceeds.

988. The leucorrhœa, of which I am to treat, as aſcertained by the ſeveral circumſtances, (986.), ſeems to proceed from the ſame cauſes as that ſpecies of menorrhagia

---

tic of gonorrhœa is, as the Author ſays, an inflammatory affection of the pudenda; but, as few women will ſuffer an inſpection of the parts, we muſt pay ſome attention to the concomitant ſymptoms. The running in a gonorrhœa is conſtant, and only in ſmall quantities; in a leucorrhœa the diſcharge is inconſtant, and in large quantities. The other diſtinguiſhing marks of a gonorrhœa are, ſmarting in making water, itching of the pudenda, increaſed inclination for venery, a ſwelling of the labia and of the glands about the groin. Some authors mention the colour of the diſcharged matter as a diſtinguiſhing mark; this, however, is inconſtant.

which I ſuppoſe to ariſe from the laxity of the extreme veſſels of the uterus. It accordingly often follows or accompanies ſuch a menorrhagia; but, though the leucorrhœa depends chiefly upon the laxity mentioned, it may have proceeded from irritations inducing that laxity, and ſeems to be always increaſed by any irritations applied to the uterus.

989. Some authors have alledged, that a variety of circumſtances in other parts of the body may have a ſhare in bringing on and in continuing this affection of the uterus now under conſideration: But I cannot diſcover the reality of thoſe cauſes; and it ſeems to me, that this leucorrhœa, excepting in ſo far as it depends upon a general debility of the ſyſtem, is always primarily an affection of the uterus; and the affections of other parts of the body which may happen to accompany it, are for the moſt

part to be conſidered as effects, rather than as cauſes.

990. The effects of the leucorrhœa are much the ſame with thoſe of menorrhagia; inducing a general debility, and, in particular, a debility in the functions of the ſtomach. If, however, the leucorrhœa be moderate, and be not accompanied with any conſiderable degree of menorrhagia, it may often continue long without inducing any great degree of debility; and it is only when the diſcharge has been very copious, as well as conſtant, that its effects in that way are very remarkable.

991. But, even when its effects upon the whole body are not very conſiderable, it may ſtill be ſuppoſed to weaken the genital ſyſtem; and it ſeems ſufficiently probable that this diſcharge may often have a ſhare in occaſioning barrenneſs.

992. The matter diſcharged in the leucorrhœa is at firſt generally mild; But, after ſome continuance of the diſeaſe, it ſometimes becomes acrid *; and by irritating, or perhaps eroding, the ſurfaces over which it paſſes, induces various painful diſorders.

993. As I have ſuppoſed that the leucorrhœa proceeds from the ſame cauſes as that ſpecies of menorrhagia which is chiefly owing to a laxity of the uterine veſſels, it muſt be treated, and the cure attempted, by the ſame means as delivered in (982.) for the cure of menorrhagia, and with leſs reſerve, in reſpect of the uſe of aſtringents †.

994.

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* The young practitioner muſt not conclude too haſtily that an ulcer exiſts in the uterus when the matter diſcharged is acrid. Practice has afforded many inſtances where the matter has excoriated the pudenda, and yet no ulcer exiſted.

† The electuary mentioned at the end of the laſt note

994. As the leucorrhœa generally depends upon a great loſs of tone in the veſſels of the uterus, the diſeaſe has been relieved, and ſometimes cured, by certain ſtimulant medicines, which are commonly determined to the urinary paſſages, and from the vicinity of theſe are often communicated

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note on Article 983. has been found very efficacious in ſome caſes of leucorrhœa. Its doſe may be increaſed to a dram thrice a-day, either ſwallowed as a bolus, or diſſolved in an ounce of pure water, and half an ounce of ſimple cinnamon water.

The chalybeate waters are uſeful in this, as well as in the former diſeaſe; and they may be uſed in the manner above mentioned.

Practitioners recommend, in theſe caſes, a nutritive but not a heating diet, as mucilaginous broths made with rice, eſpecially veal-broth, jellies of all kinds, except thoſe that are high-ſeaſoned. Port-wine muſt be preſcribed in a moderate quantity, according to the habits of the patient.

municated to the uterus. Such, for example, are cantharides, turpentine, and other balſams of a ſimilar nature *.

---

* The practice here recommended is not without danger, and muſt not be followed except with great caution and circumſpection When the other means fail in producing relief, we may then have recourſe to theſe balſamics, or join them to the tonic aſtringents, as,

℞. Gum. oliban.
Terebinth. venet.
Alum.
Terr. japonic. *aa*. ʒi.
Sal. martis ʒſs.
M. f. maſſa in pilulas æquales No. 60. dividend.

Two or three of theſe pills may be given twice a day or oftener.

Some practitioners have ſtrongly recommended the following emulſion :

℞. Balſam. copaivi ʒi.
Vitel. ovi No. 1.
Tere in mortar. marmor. et adde gradatim,

Aq. font. ℥vii.
Syr. Simpl. ℥i.
M. f. Emulſ.

The doſe of this emulſion is 2 or 3 ſpoonfuls three or four times a day.

CHAP. VIII.

OF THE

AMENORRHŒA,

OR

INTERRUPTION OF THE MENSTRUAL FLUX.

995. WHATEVER, in a ſyſtem of methodical noſology, may be the fitteſt place for the amenorrhœa, it cannot be improper to treat of it here as an object of practice, immediately after having conſidered the menorrhagia.

996. The interruption of the menſtrual flux is to be conſidered as of two different kinds; the one being when the menſes do not begin to flow at that period of life at which they uſually appear; and the other being that when, after they have repeatedly taken place for ſome time, they do, from other cauſes than conception, ceaſe to return at their uſual periods: The former of theſe caſes is named the *retention*, and the latter the *ſuppreſſion* of the menſes.

997. As the flowing of the menſes depends upon the force of the uterine arteries impelling the blood into their extremities, and opening theſe ſo as to pour out red blood; ſo the interruption of the menſtrual flux muſt depend, either upon the want of due force in the action of the uterine arteries, or upon ſome preternatural reſiſtance in their extremities. The former I ſuppoſe to be the moſt uſual cauſe of retention, the latter the moſt common cauſe

of ſuppreſſion ; and of each of theſe I ſhall now treat more particularly.

998. The retention of the menſes, the *emanſio menſium* of Latin writers, is not to be conſidered as a diſeaſe merely from the menſes not flowing at that period which is uſual with moſt other women. This period is ſo different in different women, that no time can be preciſely aſſigned as proper to the ſex in general. In this climate, the menſes uſually appear about the age of fourteen : But in many they appear more early, and in many not till the ſixteenth year : In which laſt caſe it is often without any diſorder being thereby occaſioned. It is not therefore from the age of the perſon that the retention is to be conſidered as a diſeaſe ; and it is only to be conſidered as ſuch, when, about the time the menſes uſually appear, ſome diſorders ariſe in other parts of the body which may be imputed to their retention ; being ſuch as,

when ariſing at this period, are known from experience to be removed by the flowing of the menſes.

999. Theſe diſorders are, a ſluggiſhneſs, and frequent ſenſe of laſſitude and debility, with various ſymptoms of dyſpepſia; and ſometimes with a preternatural appetite *. At the ſame time, the face loſes its vivid colour, becomes pale, and ſometimes of a yellowiſh hue; the whole body becomes pale and flaccid; and the feet, and perhaps alſo

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* This is a very extraordinary ſymptom, which has not hitherto been explained. It ſometimes accompanies every ceſſation of the uterine diſcharge, but frequently appears in the moſt violent degree, in pregnancy.

In young women, the appetite for chalk, lime-rubbiſh, charcoal, and various abſorbents, is the moſt prevalent. Stalh, and his followers, made great uſe of this circumſtance in ſupporting their favourite opinion of the *vis medicatrix naturae*.

alſo a great part of the body, become affected with œdematous ſwellings. The breathing is hurried by any quick or laborious motion of the body, and the heart is liable to palpitation and ſyncope. A head-ach ſometimes occurs; but more certainly pains of the back, loins, and haunches *.

1000. Theſe ſymptoms, when occurring in a high degree, conſtitute the *chloroſis* of authors, hardly ever appearing ſeparate from the retention of the menſes; and, attending to theſe ſymptoms, the cauſe of this retention may, I think, be perceived.

Theſe ſymptoms manifeſtly ſhow a conſiderable laxity and flaccidity of the whole ſyſtem; and therefore give reaſon to conclude,

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* Theſe pains are not properly ſymptoms of the diſeaſe, but prognoſtics of the efforts nature makes to remove the diſeaſe: They are ſymptoms of the *vis medicatrix*.

clude, that the retention of the menſes accompanying them, is owing to a weaker action of the veſſels of the uterus; which therefore do not impel the blood into their extremities with a force ſufficient to open theſe, and pour out blood by them.

1001. How it happens that, at a certain period of life, a flaccidity of the ſyſtem ariſes in young women not originally affected with any ſuch weakneſs or laxity, and of which but a little time before they had given no indication, may be difficult to explain; but I would attempt it in this way.

As a certain ſtate of the ovaria in females prepares and diſpoſes them to the exerciſe of venery, about the very period at which the menſes firſt appear, it is to be preſumed that the ſtate of the ovaria, and that of the uterine veſſels, are in ſome meaſure connected together; and, as generally ſymptoms of a change in the ſtate of the former appear before thoſe of the latter, it may be

inferred,

inferred, that the ſtate of the ovaria has a great ſhare in exciting the action of the uterine veſſels, and producing the menſtrual flux. But, analogous to what happens in the male ſex, it may be preſumed, that, in females, a certain ſtate of the genitals is neceſſary to give tone and tenſion to the whole ſyſtem; and therefore that, if the ſtimulus ariſing from the genitals be wanting, the whole ſyſtem may fall into a torpid and flaccid ſtate, and from thence the chloroſis and retention of the menſes may ariſe.

1002. It appears to me, therefore, that the retention of the menſes is to be referred to a certain ſtate or affection of the ovaria: But what is preciſely the nature of this affection, or what are the cauſes of it, I will not pretend to explain; nor can I explain in what manner that primary cauſe of retention is to be removed. In this, therefore, as in many other caſes, where we cannot aſſign the proximate cauſe of diſeaſes, our indications of cure muſt be formed for obviating and removing the morbid effects or ſymptoms which appear.

1003. The effects, as has been ſaid in (1000.), conſiſt in a general flaccidity of the ſyſtem, and conſequently in a weaker action of the veſſels of the uterus; ſo that this debility may be conſidered as the more immediate cauſe of the retention. This, therefore, is to be cured by reſtoring the tone of the ſyſtem in general, and by exciting the action of the uterine veſſels in particular.

1004. The tone of the ſyſtem in general is to be reſtored by exerciſe, and, in the beginning of the diſeaſe, by cold bathing. At the ſame time, tonic medicines* may be employed;

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* Forms of the tonic medicines have been given in ſome

employed; and of theſe the chalybeates have been chiefly recommended.

1005. The action of the veſſels of the uterus may be excited:

1ſt, By determining the blood into them more copiouſly; which is to be done by determining the blood into the deſcending aorta, by purging, by the exerciſe of walking,

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ſome of the preceding notes. The electuary in the note on article 983. is frequently uſed with ſucceſs. In this caſe, we muſt not uſe aſtringents, but tonics, and conſequently only ſuch tonics as are not aſtringents, at leaſt in a high degree. The ſimple bitter tonics frequently anſwer where the ſymptoms are not ſevere. The Infuſum gentianæ compoſitum of the new London Pharmacopœia is a good formula. The doſe of it is two ounces twice a-day, or oftener, if the ſtomach can bear it.

Chalybeates are abſolutely neceſſary if the diſeaſe withſtands the uſe of bitters; they may be given in any of the forms mentioned in the preceding notes.

ing *, by friction, and by warm bathing of the lower extremities. It is alſo probable that the blood may be determined more copiouſly into the hypogaſtric arteries which go to the uterus, by a compreſſion of the iliacs ; but the trials of this kind hitherto made have ſeldom ſucceeded.

1006. 2dly, The action of the uterine veſſels may be excited by ſtimulants applied to them. Thus, thoſe purgatives which particularly ſtimulate the inteſtinum rectum †, may alſo prove ſtimulant to the uterine

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* Dancing is alſo a proper exerciſe in this diſeaſe.

† Theſe ſtimulant purges are in general the draſtic reſins, as Scammony, Aloes, &c. Various formulæ of them have been recommended in theſe caſes ; the Pilulæ Rufi is commonly uſed with good effect. It may be given in the quantity of half a dram, or, in ſtrong conſtitutions, two ſcruples. It ought not to be repeated above twice a week ; and, in the intermediate days, we

uterine veſſels connected with thoſe of the rectum. The exerciſe of venery certainly proves

we may employ the tonic medicines above mentioned.

The Pilulæ ecphracticæ of the Edinburgh Pharmacopœia is another very effectual medicine in theſe caſes. Its doſe is half a dram twice a week, if we intend to purge briſkly; but, by giving a ſmaller quantity, as ten, twelve, or fifteen grains once a-day, a conſtant ſtimulus is preſerved, which ſome practitioners prefer.

The following pills are alſo much recommended:

℞. Pil. Gummoſ.
Aloes Socotorin. *aa.* ℥ii.
Vin. Aloet. q. s.
M. f. Maſſa in pilulas 48. dividend.

The doſe is 3 or 4 pills at bed time.

The Tinctura ſacra is alſo frequently uſed as a briſk purge in theſe caſes; its doſe for this purpoſe muſt not be leſs than an ounce and a half in moſt habits; but a ſtrong conſtitution will require two ounces or more.

Other

proves a ſtimulus to the veſſels of the uterus; and therefore may be uſeful when, with propriety, it can be employed. The various medicines recommended as ſtimulants of the uterine veſſels, under the title of Emmenagogues, have never appeared to me to be effectual; and I cannot perceive that any of them are poſſeſſed of a ſpecific power in this reſpect. Mercury, as an univerſal ſtimulant, may act upon the uterus, but cannot be very ſafely employed in chlorotic perſons. One of the moſt powerful means of exciting the action of the veſſels, in every part of the ſyſtem, is the electrical ſhock; and it has often been em-

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Other ſtimulants than purges have been employed in amenorrhœa, as the Tinctura ſabina compoſita of the new London Pharmacopœia; its doſe is thirty or forty drops, in any ſuitable vehicle. The Tinctura myrrhæ of the ſame Pharmacopœia, in doſes of twenty or thirty drops, is often recommended on the authority of Boerhaave.

employed with ſucceſs for exciting the veſſels of the uterus.

1007. The remedies (1003.—1006.) now mentioned are thoſe adapted to the *retention* of the menſes; and I am next to conſider the caſe of *ſuppreſſion* In entering upon this, I muſt obſerve, that every interruption of the flux, after it has once taken place, is not to be conſidered as a caſe of ſuppreſſion For the flux, upon its firſt appearance, is not always immediately eſtabliſhed in its regular courſe; and therefore, if an interruption happen ſoon after the firſt appearance, or even in the courſe of the firſt, or perhaps ſecond year after, it may often be conſidered as a caſe of retention, eſpecially when the diſeaſe appears with the ſymptoms peculiar to that ſtate.

1008. Thoſe which may be properly conſidered as caſes of ſuppreſſion, are ſuch as occur after the flux has been for ſome time eſtabliſhed in its regular courſe, and in which the interruption cannot be referred to the cauſes of retention (1002. 1003.), but muſt be imputed to ſome reſiſtance in the extremities of the veſſels of the uterus. Accordingly, we often find the ſuppreſſion induced by cold, fear, and other cauſes which may produce a conſtriction of theſe extreme veſſels. Some phyſicians have ſuppoſed an obſtructing lentor of the fluids to occaſion the reſiſtance now mentioned: But this is purely hypothetical, without any proper evidence of the fact; and it is, beſides, from other conſiderations, improbable.

1009. There are indeed ſome caſes of ſuppreſſion that ſeem to depend upon a general debility of the ſyſtem, and conſequently of the veſſels of the uterus. But, in ſuch caſes, the ſuppreſſion always appears as ſymptomatic of other affections, and is therefore not to be conſidered here.

1010. The idiopathic caſes of ſuppreſſion (1008) ſeldom continue long without being attended with various ſymptoms or diſorders in different parts of the body; very commonly ariſing from the blood which ſhould have paſſed by the uterus being determined more copiouſly into other parts, and very often with ſuch force as to produce hemorrhagies in theſe. Hence hemorrhagies from the noſe, lungs, ſtomach, and other parts, have appeared in conſequence of ſuppreſſed menſes. Beſides theſe, there are commonly hyſteric and dyſpeptic ſymptoms produced by the ſame cauſe, and frequently colic pains, with a bound belly.

1011. In the idiopathic caſes of ſuppreſſion, (1008.), the indication of cure is to remove the conſtriction affecting the extreme veſſels of the uterus; and, for this purpoſe, the chief remedy is warm bathing applied to the region of the uterus. This, however, is not always effectual; and I do not know of any other remedy adapted to the indication. Beſides this, we have perhaps no other means of removing the conſtriction in fault, but that of increaſing the action and force of the veſſels of the uterus, ſo as thereby to overcome the reſiſtance or conſtriction of their extremities. This, therefore, is to be attempted by the ſame remedies, in the caſe of ſuppreſſion, as thoſe preſcribed in the caſes of retention (1004.—1006.). The tonics, however, and cold bathing, (1004.), ſeem to be leſs properly adapted to the caſes of ſuppreſſion, and have appeared to me of ambiguous effect *.

1012.

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* The Emenagogues enumerated in the note in Article 1005 are more efficacious in theſe caſes than the tonics and chalybeates mentioned in the note on Article 1004. for this reaſon, that the ſuppreſſion of the menſes

1012. It commonly happens in the caſes of ſuppreſſion, that, though the menſes do not flow at their uſual periods, there are often at thoſe periods ſome marks of an effort having a tendency to produce the diſcharge. It is therefore at thoſe times eſpecially when the efforts of the ſyſtem are concurring, that we ought to employ the remedies for curing a ſuppreſſion; and it is commonly fruitleſs to employ them at other times, unleſs they be ſuch * as require

menſes depends more on the conſtriction, than on a laxity of the extreme veſſels. Some caſes, indeed, occur, where a lax habit is the cauſe of ſuppreſſion, but they are rare: The phyſician ought to be attentive in diſcriminating ſuch caſes, becauſe a liberal uſe of forcing emenagogues is always hurtful in them; they can only be relieved by tonics, and eſpecially by chalybeates.

* Viz. tonics or alterants.

quire ſome continuance in their uſe to produce their effects.

1013. Nearly ſimilar to the caſes of ſuppreſſion are thoſe caſes in which the menſes flow after long intervals, and in leſſer quantity than uſual; and, when theſe caſes are attended with the diſorders in the ſyſtem, (1010), they are to be cured by the ſame remedies as the caſes of entire ſuppreſſion.

1014. It may be proper, in this place, to take notice of the dyſmenorrhea, or caſes of menſtruation in which the menſes ſeem to flow with difficulty, and are accompanied with much pain in the back, loins, and lower belly. We impute this diſorder partly to ſome weaker action of the veſſels of the uterus, and partly, perhaps more eſpecially, to a ſpaſm of its extreme veſſels. We have commonly found the diſeaſe relieved by employing ſome of the remedies of ſuppreſſion immediately before the approach of the period, and at the ſame time employing opiates.

CHAP. IX.

OF

SYMPTOMATIC HEMORRHAGIES.

1015. I HAVE thought it very improper, in this work, to treat of thoſe morbid affections that are almoſt always ſymptomatic of other more primary diſeaſes; and this for ſeveral reaſons, particularly becauſe it introduces a great deal of confuſion in directing practice, and leads phyſicians to employ palliative meaſures only. I ſhall here, however, deviate

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a little from my general plan, to make ſome reflections upon ſymptomatic hemorrhagies.

1016. The hemorrhagies of this kind that eſpecially deſerve our notice, are the Hematemeſis, or Vomiting of Blood; and the Hematuria, or the Voiding of Blood from the urinary paſſage. Upon theſe I am here to make ſome remarks; becauſe, though they are very generally ſymptomatic, it is poſſible they may be ſometimes primary and idiopathic affections; and becauſe they have been treated of as primary diſeaſes in almoſt every ſyſtem of the practice of phyſic.

SECT. I.

OF THE

HEMATEMESIS,

OR

VOMITING OF BLOOD.

1017. I have ſaid above (in 945.) in what manner blood thrown out from the mouth may be known to proceed from the ſtomach, and not from the lungs: But it may be proper here to ſay more particularly that this may be certainly known when the blood is brought up manifeſtly by vomiting without any coughing; when this vomiting has been preceded by ſome ſenſe of weight, anxiety, and pain, in the region of the ſtomach; when the blood brought up is of a black and grumous appearance, and when it is manifeſtly mixed with other contents of the ſtomach; we can ſeldom have any doubt of the ſource from whence the blood proceeds, and therefore of the exiſtence of the diſeaſe we treat of.

1018. We muſt allow it to be poſſible that a plethoric ſtate of the body from general cauſes may be accompanied with cauſes of a peculiar determination and afflux of blood to the ſtomach, ſo as to occaſion an hemorrhagy there, and thence a vomiting of blood; and in ſuch a caſe this appearance might be conſidered as a primary diſeaſe. But the hiſtory of diſeaſes in the records of phyſic afford little foundation for ſuch a ſuppoſition; and, on the contrary,

trary, the whole of the inſtances of a vomiting of blood which have been recorded are pretty manifeſtly ſymptomatic of a more primary affection.

Of ſuch ſymptomatic vomitings of blood the chief inſtances are the following.

1019. One of the moſt frequent is that which appears in conſequence of a ſuppreſſion of an evacuation of blood which had been for ſome time before eſtabliſhed in another part of the body, particularly that of the menſtrual flux in women.

1020. There are inſtances of a vomiting of blood happening from the *retention* of the menſes; but ſuch inſtances are very uncommon; as retention of the menſes rarely happens in conſequence of, or even with, a plethoric ſtate of the body; and as rarely does it produce that, or the hemorrhagy in queſtion.

There are inſtances of a vomiting of blood happening to pregnant women; that might therefore alſo be imputed to the ſuppreſſion of the menſes, which happens to women in that ſtate. There have indeed been more inſtances of this than of the former caſe; but the latter are ſtill very rare: For, although the blood which uſed to flow monthly before impregnation, is, upon this taking place, retained, it is commonly ſo entirely employed in dilating the uterine veſſels, and in the growth of the fœtus, that it is ſeldom found to produce a plethoric ſtate of the body, requiring a vicarious outlet.

The vomiting of blood, therefore, that is vicarious of the menſtrual flux, is that which commonly, and almoſt only, happens upon a ſuppreſſion of that flux, after it had been for ſome time eſtabliſhed.

1021. When ſuch a ſuppreſſion happens, it may be ſuppoſed to operate by inducing a plethoric ſtate of the whole body, and thereby occaſioning hemorrhagy from other parts of it; and hemorrhagies from many different parts of the body have been obſerved by phyſicians as occurring in conſequence of the ſuppreſſion we ſpeak of. It is, however, the great variety of ſuch hemorrhagies that leads me to think, that, with the plethoric ſtate of the whole body, there muſt be always ſome peculiar circumſtances in the part from which the blood flows, that determines its afflux to that particular, often ſingularly odd, part; and therefore, that ſuch hemorrhagies may, from theſe circumſtances, occur, without any conſiderable plethora at the ſame time prevailing in the whole ſyſtem.

1022. It is to be obſerved, that, if we are to expect an hemorrhagy in conſequence of a ſuppreſſion of the menſes inducing a plethoric ſtate of the ſyſtem, we ſhould expect eſpecially an hemoptoſis, or hemorrhagy from the lungs, as a plethora might be expected to ſhow its effects eſpecially there ; and accordingly, upon occaſion of ſuppreſſed menſes, that hemorrhagy occurs more frequently than any other : But, even this, when it does happen, neither in its circumſtances nor in its conſequences, leads us to ſuppoſe, that, at the ſame time, any conſiderable or dangerous plethora prevails in the body.

1023. Theſe conſiderations in 1021. 1022. will, I apprehend, apply to our preſent ſubject ; and I would therefore alledge, that a hematemeſis may perhaps depend upon particular circumſtances of the ſtomach determining an afflux of blood to that organ, and may therefore occur without any conſiderable or dangerous plethora prevailing in the ſyſtem. What are the circumſtances of the ſtomach, which, upon the occaſion mentioned, may determine an afflux of blood to it, I cannot certainly or clearly explain; but preſume that it depends upon the connection and conſent which we know to ſubſiſt between the uterus and the whole of the alimentary canal, and eſpecially that principal part of it, the ſtomach.

1024. From theſe reflections, we may, I think, draw the following concluſions:

1. That the hematemeſis we ſpeak of is hardly ever a dangerous diſeaſe.

2. That it will hardly ever require the remedies ſuited to the cure of active hemorrhagy; and, at leaſt, that it will require theſe only in thoſe unuſual caſes in which there appear ſtrong marks of a general plethora, and in which the vomiting of blood appears to be conſiderably active, very profuſe, and frequently recurring.

3. That a vomiting of blood from ſuppreſſed menſes ought ſeldom to prevent the

uſe of theſe remedies of amenorrhœa, which might be improper in the caſe of an active idiopathic hemorrhagy.

1025. Another caſe of ſymptomatic hematemeſis, quite analogous to that already mentioned, is the hematemeſis following, and ſeemingly depending upon, the ſuppreſſion of an hemorrhoidal flux, which had been eſtabliſhed and frequent for ſome time before.

This may perhaps be explained by a general plethoric ſtate induced by ſuch a ſuppreſſion ; and indeed ſome degree of a plethoric ſtate muſt, in ſuch a caſe, be ſuppoſed to take place : But that ſuppoſition alone will not explain the whole of the caſe ; for a general plethora would lead us to expect an hemoptyſis, (1022.), rather than an hematemeſis ; and there is therefore ſomething ſtill wanting, as in the former caſe, to explain the particular determination to the ſtomach.

Whether ſuch an explanation can be got from the connection between the different parts of the ſanguiferous veſſels of the alimentary canal, or from the connection of the whole of theſe veſſels with the vena portarum, I ſhall not venture to determine. But, in the mean time, I imagine that the explanation required is rather to be obtained from that connection of the ſtomach with the hemorrhoidal affection that I have taken notice of in 946.

1026. However we may explain the hematemeſis occaſioned by a ſuppreſſion of the hemorrhois, the conſiderations in (1021. 1022.), will apply here as in the analogous caſe of hematemeſis from ſuppreſſed menſes; and will therefore allow us alſo to conclude here, that the diſeaſe we now treat of will ſeldom be dangerous, and will ſeldom require the ſame remedies that idiopathic and active hemorrhagy does.

1027. The caſes of hematemeſis already mentioned may be properly ſuppoſed to be hemorrhagies of the arterial kind; but it is probable that the ſtomach is alſo liable to hemorrhagies of the venous kind, (768.).

In the records of phyſic, there are many inſtances of vomitings of blood, which were accompanied with a tumefied ſpleen, which had compreſſed the vas breve, and thereby prevented the free return of venous blood from the ſtomach. How ſuch an interruption of the venous blood may occaſion an hemorrhagy from either the extremities of the veins themſelves, or from the extremities of their correſpondent arteries, we have explained above in 769. and the hiſtories of tumefied ſpleens compreſſing the vaſa brevia, afford an excellent illuſtration and confirmation of our doctrine on that ſubject, and render it ſufficiently probable that vomitings of blood often ariſe from ſuch a cauſe.

1028. It is alſo poſſible that an obſtruction of the liver, reſiſting the free motion of the blood in the vena portarum, may ſometimes interrupt the free return of the venous blood from the veſſels of the ſtomach, and thereby occaſion a vomiting of blood; but the inſtances of this are neither ſo frequent, nor ſo clearly explained, as thoſe of the former caſe.

1029. Beſides theſe caſes depending on the ſtate of the liver or ſpleen, it is very probable that other hemorrhagies of the ſtomach are frequently of the venous kind.

The diſeaſe named by Sauvages Melæna, and by other writers commonly termed the Morbus Niger, (772.), conſiſting in an evacuation either by vomiting or by ſtool, and ſometimes in both ways, of a black and grumous blood, can hardly be otherwiſe occaſioned, than by a venous hemorrhagy from ſome part of the internal ſurface of the alimentary canal.

It is indeed, poſſible, that the bile may ſometimes put on a black and viſcid appearance, and give a real foundation for the appellation of an Atra Bilis: But it is certain that inſtances of this are very rare; and it is highly probable that what gave occaſion to the notion of an atra bilis among the ancients was truly the appearance of blood poured into the alimentary canal in the manner I have mentioned; and which appearance, we know, the blood always puts on when it has ſtagnated there for any length of time. I ſuppoſe it is now generally thought that Boerhaave's notion of ſuch a matter exiſting in the maſs of blood is without any foundation; whilſt, by diſſections in modern times, it appears very clearly that the morbus niger preſenting ſuch an appearance of blood always depends upon the effuſion and ſtagnation I have mentioned.'

1030. From this account of the melæna it will appear that vomitings of blood may ariſe in conſequence of blood being poured out in the manner I have mentioned, either into the cavity of the ſtomach itſelf, or into the ſuperior portions of the inteſtines, from whence matters often paſs into the ſtomach.

1031. Both in the caſe of the melæna, and in the analogous caſes from affections of the ſpleen or liver, it will appear, that the vomitings of blood occurring muſt be conſidered as ſymptomatic affections, not at all to be treated as a primary active hemorrhagy, but by remedies, if any ſuch be known, that may reſolve the primary obſtructions *.

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* This is doubtleſs the moſt rational practice, namely, to reſolve the obſtruction which has occaſioned the blood to be thrown or driven to the inteſtines. To diſcover this primary obſtruction is, however, ſome-

1032. I believe I have now mentioned almoſt the whole of the cauſes producing a hematemeſis ;

times extremely difficult ; and, even when it is diſcovered, it is frequently not eaſily relieved ; in ſuch caſes, therefore, we muſt uſe the general remedies for removing the plethora, except laxatives, the operations of which, in general, derive the fluids to the inteſtines.

Sweating is perhaps the beſt general evacuation for determining the fluids from the inteſtines ; but its uſe ought to be preceded by bleeding ; and it ought not, in theſe caſes, to be excited by nauſeating doſes of emetics, as theſe produce the ſame effect as laxatives ; we muſt therefore have recourſe to the light aromatics, ſage, mint, balm, wine-whey, &c. Camphor and opium are alſo proper ſudorifics in theſe caſes. They may be given together, as in the following bolus :

℞. Camphor. gr. vi.
Spir. vini gutt. x.
Opii pur. gr. i.
Conf. card. ʒſs. vel q. s.
M. f. bolus.

Some

hematemeſis; and certainly the cauſes mentioned are thoſe which moſt commonly give

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Some practitioners have recommended large quantities of ſpermaceti in caſes of hematemeſis, and not without reaſon. It may be given in emulſions, with yolks of eggs, or in an electuary. I ſhall therefore add a formula of each.

℞. Spermat. cet. ℥ſs.
Vitel. ovi q. s.
Tere in mortar. mormoreo, et adde
Aq. font. ℥vii.
Syr. ſimpl. ℥i.
M. f. Emulſ.

The doſe of this emulſion is two or three table-ſpoonfuls every three hours.

℞. Spermat. cet. ℥i.
Conſerv. roſar. ℥ii.
Syr. Simp. ℥i.
M. f. Elect.

The doſe of this electuary is a tea-ſpoonful or two every two or three hours.

give occaſion to that ſymptom. Poſſibly, however, there may be ſome other cauſes of

If the hematemeſis be violent, we muſt have recourſe to ſome of the ſtyptics and aſtringents mentioned before in the cure of hemorrhage in general, as alum, catechu, kino, &c. of which I ſhall ſubjoin ſome formulae.

℞. Alum. uſt. gr. iii.
Kino ℈ſs.
M. f Pulvis.

This powder may be repeated every two hours, and three table ſpoonfuls of the tincture of roſes may be given to waſh it down.

The electuarium japonicum of the Edinburgh Pharmacopœia is well calculated for theſe caſes; its doſe is a dram and an half, or two drams.

The extract of logwood is ſometimes uſed in theſe caſes with conſiderable ſucceſs. It may either be given alone in doſes of a ſcruple each every three hours, or joined with alum, as in the following formula:

℞.

of it, ſuch as that ſingular one mentioned by Sauvage; of an aneuriſm of the aorta burſting

℞. Extract. lign. Campechenſ. ℥ſs.
Alum. uſt. gr. iii.
M. f. pulvis.

This powder may be repeated every three hours; drinking after it three table ſpoonfuls of the tincture of roſes; or a tea-cupful of cold water, with twenty or thirty drops of the acidum vitriolicum dilutum, or as much as is ſufficient to give an agreeable acidity.

All theſe ſtyptics and aſtringents are apt to produce coſtiveneſs, which muſt be removed by emollient glyſters, as laxative medicines are, for the reaſons above-mentioned, generally hurtful in theſe caſes.

The young practitioner muſt not truſt to theſe medicines for completely curing an hæmorrhage from the inteſtines; they are only palliatives, and are of no other uſe than to check the violence of the diſcharge until the true cauſe of the diſeaſe be diſcovered; and the diſcovery of this cauſe muſt be left to the ſagacity of the phyſician.

burſting into the ſtomach: And it is poſſible that ſome diſeaſes of other contiguous parts, which have become cloſely adhering to the ſtomach, may ſometimes, by a rupture into the cavity of the ſtomach, pour blood into it, which is afterwards rejected by vomiting. It is poſſible alſo that abſceſſes and ulcerations of the ſtomach itſelf may ſometimes pour blood into its cavity to be thrown up by vomiting.

I did not think it neceſſary, among the ſymptomatic vomitings of blood, to enumerate thoſe from external violence, nor, what is analogous to it, that which ariſes from violent ſtraining to vomit; which laſt, however, is much more rare than might be expected. In either of theſe caſes, the nature of the diſeaſe cannot be doubtful; and the management of it will be readily underſtood from what has been delivered above with reſpect to moderating and reſtraining hemorrhagy in general.

SECT.

SECT. II.

OF THE HEMATURIA, OR THE VOIDING OF BLOOD, FROM THE URINARY PASSAGE.

1033. It is alledged that an hematuria has occurred without any other ſymptom of an affection of the kidneys or urinary paſſages being preſent at the ſame time; and, as this happened to plethoric perſons, and recurred at fixed periods, ſuch a caſe has been ſuppoſed to be an inſtance of idiopathic hematuria, and of the nature of thoſe active hemorrhagies I have treated of before.

1034. I cannot poſitively deny the exiſtence of ſuch a caſe, but muſt obſerve that there are very few inſtances of ſuch upon the records of phyſic; that none have ever occurred to my obſervation, or to that of my friends; and that the obſervations adduced may be fallacious, as I have frequently obſerved an hematuria without ſymptoms of other affection of the kidney or urinary paſſages being for the time preſent; whilſt, however, fits of a nephralgia calculoſa having, before or ſoon after, happened, rendered it to me ſufficiently probable that the hematuria was owing to a wound made by a ſtone preſent in ſome part of the urinary paſſages.

1035. The exiſtence of an idiopathic

hematuria is further improbable, as a general plethora is more likely to produce an hemoptyſis, (1022.), and, as we do not well know of any circumſtance which might determine more particularly to the kidneys. An idiopathic hematuria, therefore, muſt certainly be a rare occurrence; and inſtances of ſymptomatic affections of the ſame kind are very frequent.

1036. One of the moſt frequent is, that hematuria, which attends the nephralgia calculoſa, and ſeems manifeſtly to be owing to a ſtone wounding the internal ſurface of the pelvis of the kidney or of the ureter. In ſuch caſes, the blood diſcharged with the urine is ſometimes of a pretty florid colour, but for the moſt part is of a dark hue: The whole of it is ſometimes diffuſed or diſſolved, and therefore entirely ſuſpended in the urine; but, if it is in any large quantity, a portion of it is depoſited to the bottom of the veſſel containing the voided blood and urine. On different occaſions, the blood voided puts on different appearances. If the blood poured out in the kidney has happened to ſtagnate for ſome time in the ureters or bladder, it is ſometimes coagulated, and the coagulated part is afterwards broken down into a grumous maſs of a black or dark colour, and therefore gives the ſame colour to the urine voided; or, if the quantity of broken down blood is ſmall, it gives only a browniſh urine reſembling coffee. It ſometimes alſo happens, that the blood ſtagnating and coagulating in the ureters takes the form of theſe veſſels, and is therefore voided under the appearance of a worm; and if the coagulated blood happens to have, as it may ſometimes have, the gluten ſeparated from the red globules, theſe worm-like appearances have their external ſurface whitiſh, and the whole ſeemingly forming a tube containing a red liquor. I have ſometimes obſerved the blood which had ſeemingly been coagulated in the ureter, come away in an almoſt dry ſtate, reſembling the half-burnt wick of a candle *.

1037. Theſe are the ſeveral appearances of the blood voided in the hematuria calculoſa, when it proceeds eſpecially from

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* In general, the blood is coagulated and grumous; hence the urine depoſits a dark brown ſubſtance ſomewhat reſembling coffee-grounds.

As the grumous blood is ſpecifically heavier than the urine, it falls to the bottom of the bladder, and is conſequently voided in greater quantity in the beginning than towards the end of making water, the urine that comes off firſt being very deep coloured and muddy, but becoming, while it flows, gradually more tranſparent and pure, until at laſt it is perfectly of a natural appearance. The patient generally mentions this circumſtance in deſcribing his complaints, with this addition, that he has in the beginning ſome difficulty of making water, but that this difficulty decreaſes in proportion as the urine becomes more tranſparent.

the kidneys or ureter; and many of the ſame appearances are obſerved when the blood proceeds only from the bladder when a ſtone is lodged there; but the attending ſymptoms will commonly point out the different ſeat of the diſeaſe.

In one caſe, when a quantity of blood from the kidney or ureter is coagulated in the bladder, and is therefore difficultly thrown out from this, the pain and uneaſineſs on ſuch an occaſion may appear chiefly to be in the bladder, though it contains no ſtone; but the antecedent ſymptoms will commonly diſcover the nature of the diſeaſe.

1038. In any of the caſes of the hematuria calculoſa, it will hardly be neceſſary to employ the remedies ſuited to an active hemorrhagy. It will be proper only to employ the regimen fit for moderating hemorrhagy in general, and particularly here to avoid every thing or circumſtance that might irritate the kidneys or ureters. Of ſuch caſes of irritation, there is none more frequent, or more conſiderable, than the preſence of hardened fæces in the colon; and theſe therefore are to be frequently removed, by the frequent uſe of gentle laxatives *.

1039.

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* Glyſters are preferable to purgatives in theſe caſes, becauſe they are leſs ſtimulating; and the emollient glyſters are preferable to all others, for their only intention is to ſoften the hardened fæces.

The only purgatives to be uſed are thoſe of the mildeſt kind, as manna, oil, caſſia, &c.

The intention of purgatives, in theſe caſes, is only to remove the hardened fæces; and this intention can often be ſufficiently anſwered by a proper choice of food, as broths, eſpecially thoſe made with barley and young animal fleſh; barley gruel, with prunes boiled in it; ſtewed endive, lettuce, and other oleraceous diſhes.

1039. The hematuria calculoſa [*] may be properly conſidered as a caſe of the hematuria violenta: And therefore I ſubjoin to that the other inſtances of hematuria from external violence; ſuch as that from external contuſion on the region of the kidney [†], and that from the violent or long continued exerciſe of the muſcles incumbent on the kidneys. An inſtance of the latter cauſe occurs eſpecially in riding *.

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[*] The hematuria calculoſa being ſymptomatic, can only be cured by removing the cauſe; it may, however, be greatly relieved by demulcents, as lintſeed tea, decoction of marſh mallows, mucilage of gum Arabic, thick barley-water, &c.

[†] The hematuria proceeding from a contuſion of the region of the kidneys requires general and topical bleeding, with purges, and an attention to the antiphlogiſtic regimen. Some practitioners recommend the warm balſams in theſe caſes; but, on account of their heating quality, their uſe is ſomewhat doubtful. Nitre is not always admiſſible, on account of its irritating the kidneys; but it is a powerful antiphlogiſtic; and, if it is uſed in theſe caſes, it muſt be well diluted: the mucila-ginous

1040. It may alſo be conſidered as a caſe of the hematuria violenta, when the diſeaſe occurs in conſequence of the taking in of certain acrid ſubſtances, which paſs again eſpecially by the urinary paſſages; and, by inflaming and ſwelling the neck of the bladder, bring on a rupture of the over-diſtended blood-veſſels, and give occaſion to a bloody urine. The moſt noted inſtance of this is in the effect of cantharides in a certain quantity, any way introdu-

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ginous drinks are abſolutely neceſſary, and ought to be uſed plentifully.

* The only method of treating this kind of hematuria is by reſt. A perſon ſubject to it ought never to ride.

ced into the body. And poſſibly ſome other acrids may have the ſame effect *.

1041.

* This ſpecies of hematuria is cured by evacuating the acrid ſubſtance, and by the uſe of the mucilaginous drinks before mentioned. The acrid ſubſtance may be evacuated by antiphlogiſtic purges, or by the milder diuretics, as nitre, decoctions of parſley roots, cream of tartar whey, &c.

The action of cantharides on the urinary paſſages is not well explained. We can ſcarcely believe that any part of the cantharides is abſorbed from the bliſtering plaiſter; yet its effects are the ſame with thoſe produced by taking the cantharides internally.

The ſtrangury, and its concomitant ſymptoms, may be relieved by large and plentiful dilution, and a free uſe of the mucilaginous drinks.

Camphor has been thought to have ſome ſpecific quality in preventing and curing the ſtrangury produced by bliſters, and experience warrants the concluſion; eſpecially if the camphor is joined with opium, as in the following formula:

℞;

1041. Beſide theſe moſt frequent inſtances of hematuria, which cannot be conſidered as idiopathic hemorrhagies, there are ſome other inſtances of hematuria mentioned by authors, that are ſtill, however, manifeſtly ſymptomatic; ſuch as a diſcharge of blood from the urinary paſſages, in conſequence of a ſuppreſſion of either the menſtrual or hemorrhoidal flux. Theſe may be conſidered as analogous to the hematemeſis produced by the like cauſes; and the ſeveral reflections made above on that ſubject, will, I think, apply here, and particularly the concluſions formed in 1024. Inſtances, however, of either of theſe caſes, and eſpecially of the firſt, have been extremely rare.

1042.

℞. Camphor. gr. vi.
Spir. vini gutt. x.
Opii puri gr. i.
Conſerv. roſar. ʒi.
M. f. Bolus,

1042. Of ſuch ſymptomatic hematuria there is however one inſtance deſerving notice; and that is, when a ſuppreſſion of the hemorrhoidal flux, either by a communication of veſſels, or merely by the vicinity of parts, occaſions a determination of the blood into the veſſels of the neck of the bladder, which, in conſequence of a rixis or anaſtomoſis, pour out blood to be voided either with or without the urine. This caſe is what has been named the Hemorrhoides Veſicæ; and with ſome propriety, when it is manifeſtly an evacuation vicarious of what had before been uſually made from the rectum. With reſpect to the management of the hemorrhoides veſicæ, I would apply the whole of the doctrines that I have delivered above, with reſpect to the cure of the proper hemorrhoidal affection *.

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* Articles 947. et ſequent.

1043. There remains ſtill to be mentioned one other inſtance of ſymptomatic hematuria, which is that which happens in the caſe of confluent and putrid ſmall-pox, as well as in ſeveral other inſtances of putrid diſeaſes. The blood, in ſuch caſes, may be preſumed to come from the kidneys; and I apprehend that it comes from thence in conſequence of that fluidity which is always produced in the blood approaching to a putrid ſtate. Such hematuria, therefore, is not to be conſidered as a ſymptom of any affection of the kidneys, but merely as a mark of the putreſcent ſtate of the blood.

1044. In certain diſeaſes, the urine is diſcharged of ſuch a deep red colour, as to give a ſuſpicion of its being tinged by blood preſent in it; and this has given occaſion to Sauvages, amongſt the other ſpecies of hematuria, to mark the hematuria ſpuria, and the hematuria lateritia; both of which, however, he ſuppoſes to be without any blood preſent in the urine. In many caſes, it is of importance, in aſcertaining the nature of a diſeaſe, to determine whether the red colour of urine be from blood preſent in it, or from a certain ſtate of the ſalts and oils, which are always in greater or leſſer proportion conſtituent parts of the urine; and the queſtion may be commonly determined by the following conſiderations.

It has been obſerved above, that, when any conſiderable quantity of blood is voided with the urine, there is always a portion of it depoſited at the bottom of the veſſel containing the voided blood and urine; and in ſuch a caſe there will be no doubt in attributing the colour of the urine floating above to ſome part of the blood diffuſed in it. The queſtion, therefore, with reſpect to the preſence of blood in the urine, can only occur when no ſuch depoſition as I have mentioned appears;

and, when the blood that may be ſuppoſed to be preſent is diſſolved or diffuſed, and therefore entirely ſuſpended in the urine. In this caſe the preſence of the blood may be commonly known,

1ſt, By the colour which blood gives, different from any urine without blood that I have ever ſeen; and I think a little experience will enable moſt perſons to make this diſtinction.

2dly, By this, that the preſence of blood always diminiſhes the tranſparency of the urine with which it is mixed: And it is very ſeldom that urine, though very high-coloured, loſes is tranſparency; at leaſt this hardly ever appears if the urine is examined when recently voided.

3dly, When urine has blood mixed with it, it tinges a piece of linen dipt into it with a red colour, which the higheſt coloured urine without blood never does.

4thly, High-coloured urine without

blood, upon cooling, and remaining at reſt in a veſſel, almoſt always depoſites a lateritious ſediment; and if, upon any occaſion, bloody urine ſhould depoſite a ſediment that may be of a portion of the blood formerly diffuſed in it, the difference, however, may be diſcerned by this, that the ſediment depoſited by urine without blood, upon the urine's being again heated, will be entirely re-diſſolved, which will not happen to any ſediment from blood.

Laſtly, We know no ſtate of urine without blood, which ſhews any portion of it coagulable by a heat equal to that of boiling water; but blood diffuſed in urine is ſtill coagulable by ſuch a heat: And by this teſt, therefore, the preſence of blood in urine may be commonly aſcertained.

BOOK V.

OF

PROFLUVIA,

OR

FLUXES WITH PYREXIA.

1045. FORMER noſologiſts have eſtabliſhed a claſs of diſeaſes under the title of Fluxes, or Profluvia; but as, in this claſs, they have brought together a great number of diſeaſes which have nothing

thing in common, excepting the ſingle circumſtance of an increaſed diſcharge of fluids, and which alſo are, in other reſpects, very different from one another; I have avoided ſo improper an arrangement, and have diſtributed moſt of the diſeaſes comprehended in ſuch a claſs by the noſologiſts into places more natural and proper for them *. I have, indeed, ſtill employed here the general title; but I confine it to ſuch fluxes only as are conſtantly attended with pyrexia, and which therefore neceſſarily belong to the claſs of diſeaſes of which I am now treating.

Of the fluxes which may be conſidered as

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* Sauvages enumerates no leſs than thirty-ſix genera of fluxes, each of which are ſubdivided into numerous ſpecies. Vogel has forty-five genera, under the title of Profluvia, moſt of which are extremely different from each other in their eſſential qualities.

as being very conſtantly febrile diſeaſes, there are only two, the *catarrh* and *dyſentery*; and of theſe therefore I now proceed to treat.

CHAP. I.

OF THE

CATARRH.

1046. THE Catarrh is an increaſed excretion of mucus from the mucous membrane of the noſe, fauces, and bronchiæ, attended with pyrexia.

Practical writers and noſologiſts have diſtinguiſhed the diſeaſe by different appellations, according as it happens to affect thoſe different parts of the mucous membrane,

brane, the one part more or leſs than the other: But I am of opinion, that the diſeaſe, although affecting different parts, is always of the ſame nature, and proceeds from the ſame cauſe. Very commonly, indeed, thoſe different parts are affected at the ſame time; and therefore there can be little room for the diſtinction mentioned.

The diſeaſe has been frequently treated of under the title of Tuſſis, or Cough; and a cough, indeed, always attends the chief form of catarrh, that is, the increaſed excretion from the bronchiæ: But a cough is ſo often a ſymptom of many other affections, which are very different from one another, that it is improperly employed as a generic title.

1047. The remote cauſe of catarrh is moſt commonly cold applied to the body. This application of cold producing catarrh can in many caſes be diſtinctly obſerved; and I believe it would always be ſo, were men acquainted with, and attentive to, the circumſtances which determine cold to act upon the body. See 94.—96.

From the ſame paragraphs, we may learn what, in ſome perſons, gives a prediſpoſition to catarrh.

1048. The diſeaſe of which I am now to treat generally begins with ſome difficulty of breathing through the noſe, and with a ſenſe of ſome fulneſs ſtopping up that paſſage. This is alſo often attended with ſome dull pain, and a ſenſe of weight in the forehead, as well as ſome ſtiffneſs in the motion of the eyes. Theſe feelings, ſometimes at their very firſt beginning, and always ſoon after, are attended with the diſtillation from the noſe; and ſometimes from the eyes, of a thin fluid, which is often found to be ſomewhat acrid, both by its taſte, and by its fretting the parts over which it paſſes.

1049. Theſe ſymptoms conſtitute the *coryza* and *gravedo* of medical authors, and are commonly attended with a ſenſe of laſſitude over the whole body. Sometimes cold ſhiverings are felt, at leaſt the body is more ſenſible than uſual to the coldneſs of the air; and with all this the pulſe becomes, eſpecially in the evenings, more frequent than ordinary.

1050. Theſe ſymptoms ſeldom continue long before they are accompanied with ſome hoarſeneſs, and a ſenſe of roughneſs and ſoreneſs in the trachea, and with ſome difficulty of breathing, attributed to a ſenſe of ſtraitneſs of the cheſt, and attended with a cough, which ſeems to ariſe from ſome irritation felt at the glottis. The cough is generally at firſt dry, occaſioning pains about the cheſt, and more eſpecially in the breaſt. Sometimes, together with theſe ſymptoms, pains reſembling thoſe of the rheumatiſm are felt in ſeveral parts of the body, particularly about the neck and head. While theſe ſymptoms take place, the appetite is impaired, ſome thirſt ariſes, and a general laſſitude is felt over all the body.

1051. Theſe ſymptoms (1048.—1050.) mark the violence and height of the diſeaſe; which, however, does not commonly continue long. By degrees the cough becomes attended with a copious excretion of mucus; which is at firſt thin, but gradually becoming thicker, is brought up with leſs frequent and leſs laborious coughing. The hoarſeneſs and ſoreneſs of the trachea likewiſe going off, the febrile ſymptoms abating, the cough becoming leſs frequent, and with leſs expectoration, the diſeaſe ſoon after ceaſes altogether.

1052. Such is generally the courſe of this diſeaſe, which is commonly neither tedious nor dangerous; but, upon ſome occaſions, it is in both reſpects otherwiſe. A perſon affected with catarrh ſeems to be more than uſually liable to be affected by cold air; and, in that condition, if expoſed to cold, the diſeaſe, which ſeemed to be yielding, is often brought back with greater violence than before, and is rendered not only more tedious than otherwiſe it would have been, but alſo more dangerous, by the ſupervening of other diſeaſes.

1053. Some degree of the cynanche tonſillaris often accompanies the catarrh; and, when the latter is aggravated by a freſh application of cold, the cynanche alſo becomes more violent and dangerous, in conſequence of the cough which is preſent at the ſame time.

1054. When a catarrh has been occaſioned by a violent cauſe, when it has been aggravated by improper management; and eſpecially when it has been rendered more violent by freſh and repeated applications of cold, it often paſſes into a pneumonic inflammation, attended with the utmoſt danger.

1055. Unleſs, however, ſuch accidents as thoſe of 1052.—1054. happen, a catarrh, in ſound perſons not far advanced in life, is, I think, always a ſlight diſeaſe, and attended with little danger. But, in perſons of a phthiſical diſpoſition, a catarrh may readily produce an hemoptyſis, or perhaps form tubercles in the lungs; and more certainly in perſons who have tubercles already formed in the lungs, an accidental catarrh may occaſion the inflammation of theſe tubercles, and in conſequence produce a phthiſis pulmonalis.

1056. In elderly perſons, a catarrh ſometimes proves a dangerous diſeaſe. Many perſons, as they advance in life, and eſpecially after they have arrived at old age, have the natural mucus of the lungs poured out in greater quantity, and conſequently requiring a frequent expectoration. If, therefore, a catarrh happen to ſuch perſons, and increaſe the afflux of fluids to the lungs, with ſome degree of inflammation, it may produce the peripneumonia notha, which in ſuch caſes is very often fatal. See 376.—382.

1057. The proximate cauſe of catarrh ſeems to be an increaſed afflux of fluids to the mucous membrane of the noſe, fauces, and bronchiæ, along with ſome degree of inflammation affecting theſe parts. The latter circumſtance is confirmed by this, that, in the caſe of catarrh, the blood drawn from a vein commonly exhibits the ſame inflammatory cruſt which appears in the caſe of phlegmaſiæ.

1058. The application of cold which occaſions a catarrh probably operates by diminiſhing the perſpiration uſually made by the ſkin, and which is therefore determined to the mucous membrane of the parts above mentioned. As a part of the weight which the body daily loſes by inſenſible evacuation is owing to an exhalation from the lungs, there is probably a connection between this exhalation and the cutaneous perſpiration, ſo that the one may be increaſed in proportion as the other is diminiſhed: And therefore we may underſtand how the diminution of cutaneous perſpiration, in conſequence of the application of cold, may increaſe the afflux of fluids to the lungs, and thereby produce a catarrh.

1059. There are ſome obſervations made by Dr James Keil which may ſeem to render this matter doubtful; but there is a fallacy in his obſervations. The evident effects of cold in producing coryza leave the matter in general without doubt; and there are ſeveral other circumſtances which ſhow a connection between the lungs and the ſurface of the body.

1060. Whether, from the ſuppreſſion of perſpiration, a catarrh be produced merely by an increaſed afflux of fluids, or whether the matter of perſpiration be at the ſame time determined to the mucous glands, and there excite a particular irritation, may be uncertain; but the latter ſuppoſition is ſufficiently probable.

1061. Although, in the caſe of a common catarrh, which is in many inſtances ſporadic, it may be doubtful whether any morbific matter be applied to the mucous glands; it is, however, certain, that the ſymptoms of catarrh do frequently depend upon ſuch a matter being applied to theſe glands; as appears from the caſe of meaſles, chincough, and eſpecially from the frequent occurrence of contagious and epidemical catarrh.

1062. The mention of this laſt leads me to obſerve. that there are two ſpecies of catarrh, as I have marked in my Synopſis of Noſology. One of theſe, as I ſuppoſe, is produced by cold alone, as has been explained above; and the other ſeems manifeſtly to be produced by a ſpecific contagion.

Of ſuch contagious catarrhs *, I have pointed out in the Synopſis many inſtances occurring from the 14th century down to the preſent day. In all theſe inſtances the phenomena have been much the ſame; and the diſeaſe has always been particularly remarkable in this, that it has been the moſt widely and generally ſpreading epidemic known. It has ſeldom appeared in

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* Theſe epidemical catarrhs have been lately termed Influenzas.

in any one country of Europe, without appearing ſucceſſively in every other part of it; and, in ſome inſtances, it has been even transferred to America, and has been ſpread over that continent, ſo far as we have had opportunities of being informed.

1063. The catarrh from contagion appears with nearly the ſame ſymptoms as thoſe mentioned (1048.—1050.). It ſeems often to come on in conſequence of the application of cold. It comes on with more cold ſhivering than the catarrh ariſing from cold alone, and ſooner ſhows febrile ſymptoms, and theſe likewiſe in a more conſiderable degree. Accordingly, it more ſpeedily runs its courſe, which is commonly finiſhed in a few days. It ſometimes terminates by a ſpontaneous ſweat; and this, in ſome perſons, produces a miliary eruption. It is, however, the febrile ſtate of this diſeaſe eſpecially that is finiſhed in a few days; for the cough, and other catarrhal ſymptoms, do frequently continue longer; and often, when they appear to be going off, they are renewed by any freſh application of cold.

1064. Conſidering the number of perſons who are affected with catarrh, of either the one ſpecies or the other, and eſcape from it quickly without any hurt, it may be allowed to be a diſeaſe very free from danger: But it is not always to be conſidered as ſuch; for, in ſome perſons, it is accompanied with pneumonic inflammation. In the phthiſically diſpoſed, it often accelerates the coming on of phthiſis; and, in elderly perſons, it frequently proves fatal in the manner explained above, 1054. and 1056.

1065. The cure of catarrh is nearly the ſame, whether it proceed from cold or contagion, with this difference, that, in the latter caſe, remedies are commonly more neceſſary than in the former.

In the caſes of a moderate diſeaſe, it is commonly ſufficient to avoid cold, and to abſtain from animal food for ſome days *; or perhaps to lie a-bed, and, by taking frequently of ſome mild and diluent drink a little warmed, to promote a very gentle ſweat; and, after theſe, to take care to return very gradually only, to the uſe of the free air.

1066. When the diſeaſe is more violent, not only the antiphlogiſtic regimen muſt be exactly obſerved, but various remedies alſo become neceſſary.

To take off the phlogiſtic diatheſis which always attends this diſeaſe, blood-letting, in

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* Perhaps an abſtinence from all food would accelerate the cure: The mucilaginous drinks ought to be taken in conſiderable quantities, and they are ſomewhat nutritive.

a larger or ſmaller quantity, and repeated according as the ſymptoms ſhall require, is the proper remedy.

For reſtoring the determination of the fluids to the ſurface of the body *, and at the

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* The means of producing a gentle and continued perſpiration have been mentioned in a former note. In catarrh, however, the uſe of the warmer ſudorifics ſeems moſt effectual.

The elixir paregoricum, diluted with whey, eſpecially whey made with the dulcified ſpirit of nitre, is of ſingular uſe; but it ought not to be given if there is a conſiderable degree of phlogiſtic diatheſis. In this caſe, a ſpoonful of the following ſolution may be given every two or three hours, till a ſweat breaks out:

℞. Tart. emet. gr. ii.
Aq. font. ℥vi.
Syr. Althææ ℥ii.
M.

It will be neceſſary for the patient to chew occaſionally ſome mucilaginous demulcent, as Extract of Liquorice, the ſame time for expeding the ſecretion of mucus in the lungs, which may take off the inflammation of its membrane, vomiting is the moſt effectual means.

For the latter purpoſe, it has been ſuppoſed that ſquills, gum ammoniac *, the

quorice, &c. or to take a tea-ſpoonful of equal parts of oil and honey, in order to prevent the ſharp matter from irritating the fauces. The Elect. Pectorale of the Edinburgh Pharmacopœia not only relieves the tickling, but tends to produce a ſalutary diaphoreſis; its doſe is the ſize of a nutmeg three or four times a-day.

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* The ammoniac and ſquills may be joined together in the following form:

℞. Lac ammoniac ℥iv.
Syr. ſcillit. ℥iii.
M.

This mixture muſt be acknowledged to be ſomewhat nauſeous, but it has conſiderable efficacy. The doſe of it is two, or, if the ſtomach can bear it, three table ſpoonfuls twice a-day.

volatile alkali, and ſome other medicines, might be uſeful: But their efficacy has never appeared to me to be conſiderable; and, if ſquills have ever been very uſeful, it ſeems to have been rather by their emetic than by their expectorant powers.

When the inflammatory affections of the lungs ſeem to be conſiderable, it is proper, beſide blood-letting, to apply bliſters on ſome part of the thorax.

As a cough is often the moſt troubleſome circumſtance of this diſeaſe, ſo demulcents may be employed to alleviate it. See 373.

But, after the inflammatory ſymptoms have much abated, if the cough ſhould ſtill continue, opiates afford the moſt effectual means of relieving it; and, in the circumſtances juſt now mentioned, they may be very ſafely employed. See 375.

After the inflammatory and febrile ſtates of this diſeaſe are almoſt entirely gone, the moſt effectual means of diſcuſſing all remains of the catarrhal affection, is by ſome exerciſe of geſtation diligently employed.

CHAP. II.

OF THE

DYSENTERY.

1067. THE dyſentery is a diſeaſe in which the patient has frequent ſtools, accompanied with much griping, and followed by a teneſmus. The ſtools, though frequent, are generally in ſmall quantity; and the matter voided is chiefly mucus, ſometimes mixed with blood. At the ſame time, the natural fæces ſeldom appear; and, when they do, it is generally in a compact and hardened form.

1068. This diſeaſe occurs eſpecially in ſummer and autumn, at the ſame time with autumnal intermittent and remittent fevers; and with theſe it is ſometimes combined or complicated *.

1069. The diſeaſe comes on ſometimes with cold ſhiverings, and other ſymptoms of pyrexia; but more commonly the ſymptoms of the topical affection appear firſt. The belly is coſtive, with an unnuſual flatulence in the bowels. Sometimes, though more rarely, ſome degree of diarrhœa is the firſt appearance. In moſt caſes, the diſeaſe begins with griping, and a frequent incli-

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* It appears more eſpecially in armies encamped in low ſwampy grounds, and, without proper management, is highly deſtructive.

inclination to go to ſtool. In indulging this little is voided; but ſome teneſmus attends it. By degrees, the ſtools become more frequent, the griping more ſevere, and the teneſmus more conſiderable. Along with theſe ſymptoms there is a loſs of appetite; and frequently ſickneſs, nauſea, and vomiting, alſo affecting the patient. At the ſame time, there is always more or leſs of pyrexia preſent, which is ſometimes of the remittent kind, and obſerves a tertian period. Sometimes the fever is manifeſtly inflammatory, and very often of a putrid kind. Theſe febrile ſtates continue to accompany the diſeaſe during its whole courſe, eſpecially when it terminates ſoon in a fatal manner. In other caſes, the febrile ſtate almoſt entirely diſappears, while the proper dyſenteric ſymptoms remain for a long time after.

1070. In the courſe of the diſeaſe, whether of a ſhorter or longer duration, the matter voided by ſtool is very various. Sometimes it is merely a mucous matter, without any blood, exhibiting that diſeaſe which Dr Roderer has named the *morbus mucoſus*, and others the *dyſenteria alba.* For the moſt part, however, the mucus diſcharged is more or leſs mixed with blood. This ſometimes appears only in ſtreaks amongſt the mucus ; but, at other times, is more copious, tinging the whole of the matter diſcharged ; and, upon ſome occaſions, a pure and unmixed blood is voided in conſiderable quantity. In other reſpects, the matter voided is variouſly changed in colour and conſiſtence, and is commonly of a ſtrong and unuſually fetid odour. It is probable that ſometimes a genuine pus is voided ; and frequently a putrid ſanies, proceeding from gangrenous parts. There are very often mixed with the liquid matter ſome films of a membranous appearance, and frequently ſome ſmall maſſes of a ſeemingly ſebaceous matter.

1071. While the ſtools conſiſting of theſe various matters are, in many inſtances, exceedingly frequent, it is ſeldom that natural fæces appear in them; and, when they do appear, it is, as I have mentioned, in the form of ſcybala, that is, in ſomewhat hardened ſeparate balls. When theſe are voided, whether by the efforts of nature, or as ſolicited by art, they procure a remiſſion of all the ſymptoms, and more eſpecially of the frequent ſtools, griping, and teneſmus.

1072. Accompanied with theſe circumſtances, the diſeaſe proceeds for a longer or a ſhorter time. When the pyrexia attending it is of a violent inflammatory kind, and more eſpecially when it is of a very putrid nature, the diſeaſe often terminates fatally in a few days, with all the marks of a ſupervening gangrene. When the febrile ſtate is more moderate, or diſappears altogether, the diſeaſe is often protracted for weeks, and even for months; but, even then, after a various duration, it often terminates fatally, and generally in conſequence of a return, and conſiderable aggravation of the inflammatory and putrid ſtates. In ſome caſes, the diſeaſe ceaſes ſpontaneouſly; the frequency of ſtools, the griping and teneſmus, gradually diminiſhing, while natural ſtools return. In other caſes, the diſeaſe, with moderate ſymptoms, continues long, and ends in a diarrhœa, ſometimes accompanied with lienteric ſymptoms.

1073. The remote cauſes of this diſeaſe have been variouſly judged of. It generally ariſes in ſummer or autumn, after conſiderable heats have prevailed for ſome time, and eſpecially after very warm, and, at the ſame time, very dry ſtates of the weather; and the diſeaſe is much more frequent in warm than in cooler climates. It happens, therefore, in the ſame circumſtances and ſeaſons which conſiderably affect the ſtate of the bile in the human body; but, as the cholera is often without any dyſenteric ſymptoms, and copious diſcharges of bile have been found to relieve the ſymptoms of dyſentery, it is difficult to determine what connection this diſeaſe has with the ſtate of the bile.

1074. It has been obſerved, that the effluvia from very putrid animal ſubſtances readily affect the alimentary canal; and, upon ſome occaſions, they certainly produce a diarrhœa: But, whether they ever produce a genuine dyſentery, I have not been able to learn with certainty.

1075. The dyſentery does often manifeſtly ariſe from the application of cold, but the diſeaſe is always contagious; and, by the propagation of ſuch contagion, independent of cold, or other exciting cauſes, it becomes epidemic in camps and other places. It is, therefore, to be doubted if the application of cold does ever produce the diſeaſe, unleſs where the ſpecific contagion has been previouſly received into the body: And, upon the whole, it is probable that a ſpecific contagion is to be conſidered as always the remote cauſe of this diſeaſe.

1076. Whether this contagion, like many others, be of a permanent nature, and only ſhows its effects in certain circumſtances which render it active, or if it be occaſionally produced, I cannot determine. Neither, if the latter ſuppoſition be received, can I ſay by what means it may be generated. As little do we know any thing of its nature, conſidered in itſelf; or at moſt this only, that, in common with many other contagions, it appears to be commonly of a putrid nature, and capable of inducing a putreſcent tendency in the human body. This, however, does not at all explain its peculiar power in inducing thoſe ſymptoms which properly and eſſentially conſtitute the diſeaſe of dyſentery. (1067.).

177. Of theſe ſymptoms the proximate cauſe is ſtill obſcure. The common opinion has been, that the diſeaſe depends upon an acrid matter received into, or generated in, the inteſtines themſelves, exciting their periſtaltic motion, and thereby producing the frequent ſtools which occur in this diſeaſe. But this ſuppoſition cannot be admitted: for, in all the inſtances known of acrid ſubſtances applied to the inteſtines, and producing frequent ſtools, they at the ſame time produce copious ſtools, as might be expected from acrid ſubſtances applied to any length of the inteſtines. This, however, is not the caſe in dyſentery; in which

the ſtools, however frequent, are generally in very ſmall quantity, and ſuch as may be ſuppoſed to proceed from the lower parts of the rectum only. With reſpect to the ſuperior portions of the inteſtines, and particularly thoſe of the colon, it is probable they are under a preternatural and conſiderable degree of conſtriction: For, as I have obſerved above, the natural fæces are ſeldom voided; and, when they are, it is in a form which gives reaſon to ſuppoſe they have been long retained in the cells of the colon, and conſequently that the colon had been affected with a preternatural conſtriction. This is confirmed by almoſt all the diſſections which have been made of the bodies of dyſenteric patients, in which, when gangrene had not entirely deſtroyed the texture and form of the parts, conſiderable portions of the great guts have been found affected with a very conſiderable conſtriction.

1078. I apprehend, therefore, that the proximate cauſe of dyſentery, or at leaſt the chief part of the proximate cauſe, conſiſts in a preternatural conſtriction of the colon, occaſioning at the ſame time thoſe ſpaſmodic efforts which are felt in ſevere gripings; and which efforts, propagated downwards to the rectum, occaſion there the frequent mucous ſtools and teneſmus. But, whether this explanation ſhall be admitted or not, it will ſtill remain certain, that hardened fæces retained in the colon are the cauſe of the griping, frequent ſtools, and teneſmus: For the evacuation of theſe fæces, whether by nature or by art, gives relief from the ſymptoms mentioned; and it will be more fully and uſefully confirmed by this, that the moſt immediate and ſucceſsful cure of dyſentery is obtained by an early and conſtant attention to the preventing the conſtriction, and the frequent ſtagnation of fæces in the colon.

1079. In this manner I have endeavoured to aſcertain the proximate cauſe of dyſentery, and therefore to point out alſo the principal part of the cure, which, from want of the proper view of the nature of the diſeaſe, ſeems to have been in ſeveral reſpects fluctuating and undetermined among practitioners.

1080. The moſt eminent of our late practitioners, and of greateſt experience in this diſeaſe, ſeem to be of opinion, that the diſeaſe is to be cured moſt effectually by purging aſſiduouſly employed. The means may be various; but the moſt gentle laxatives are uſually ſufficient; and, as they muſt be frequently repeated, the moſt gentle are the moſt ſafe; the more eſpecially as an inflammatory ſtate ſo frequently accompanies the diſeaſe. Whatever laxatives produce an evacuation of natural fæces, and a conſequent remiſſion of the ſymptoms, will be ſufficient to effectuate the cure. But, if gentle laxatives ſhall not produce the evacuation now mentioned, ſome more powerful medicines muſt be employed *: and I have found nothing more

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* I ſhall ſubjoin ſome formulas ſuitable for procuring a paſſage in the dyſentery.

℞. Infuſ. ſenn. ℥ii.
Mannæ opt. ℥i.
M. f. hauſt.

℞. Mannæ ℥i.
Sal. glauber. ℥ſs.
Solve in aq. bullient. ℥iii.; et adde
Tinct. Cardamomi ʒi.

Where ſtronger purgatives are requiſite,

℞. Reſin. Jalap. gr. x. vel xv.
Tere in mortario marmoreo, cum
Amygdal. dulc. decort. No. iii.
Sacch. alb. ʒi.;
Dein adde
Aq. cinnamom. ſimpl. ℥iſs.
M.

more proper or convenient than tartar emetic, given in ſmall doſes, and at ſuch intervals as may determine their operation to be chiefly by ſtool. Rhubarb, ſo frequently employed, is in ſeveral reſpects amongſt the moſt improper purgatives.

1081. Vomiting has been held a principal remedy in this diſeaſe; and may be uſefully employed in the beginning of it, with a view to both the ſtate of the ſtomach and of the fever: But it is not neceſſary to repeat it often; and, unleſs the emetics employed operate alſo by ſtool, they are of little ſervice. Ipecacuanha ſeems to poſſeſs no ſpecific power; and it proves only uſeful when ſo managed as to operate chiefly by ſtool.

1082. For relieving the conſtriction of the colon, and evacuating the retained fæces *, glyſters may ſometimes be uſeful: But

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* Glyſters in theſe caſes ought to be made very large,

But they are ſeldom ſo effectual as laxatives given by the mouth; and acrid glyſters, if they be not effectual in evacuating the colon, may prove hurtful by ſtimulating the rectum too much.

1083. The frequent and ſevere griping attending this diſeaſe leads almoſt neceſſarily to the uſe of opiates; and they are very effectual for the purpoſe of relieving from the gripes; but, by occaſioning an interruption of the action of the ſmall guts, they favour the conſtriction of the colon, and thereby ſometimes aggravate the diſeaſe: And if, at the ſame time, the uſe of them ſuperſede, in any meaſure, the employing of purgatives, it commonly does much miſchief; I believe it indeed to be

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large, and they ought alſo to be very mild; as a pint and an half, or even two pints, of thin lint-ſeed tea, or decoction of marſh mallows, without any other addition.

be only the neglect of purging that renders the uſe of opiates very neceſſary *.

1084. When the gripes are both frequent and ſevere, they may ſometimes be relieved by the employment of a ſemicupium, or by a fomentation of the abdomen, continued for ſome time. In the ſame caſe, the pains may be relieved, and, as I think, the conſtriction of the colon may be taken off by bliſters applied to the lower belly †.

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* The griping is much relieved, and ſometimes prevented, by drinking plentifully of any mucilaginous warm liquors during the operation of the purges; as barley water, with bruiſed prunes boiled in it.

† Bliſters applied to the abdomen, beſides being exceſſively troubleſome, muſt neceſſarily be extremely painful.

1085. At the beginning of this diſeaſe, when the fever is any way conſiderable, blood-letting, in patients of tolerable vigour, may be proper and neceſſary; and, when the pulſe is full and hard, with other ſymptoms of an inflammatory diſpoſition, blood-letting ought to be repeated. But, as the fever attending dyſentery is often of a putrid kind, or does, in the courſe

of

Practitioners have probably been deceived in thinking that bliſters have relieved gripings in the dyſentery, for they are ſeldom employed alone; and the effects of purges and diluents have perhaps been miſtaken for the effects of a bliſter that might have happened to have been applied at the time when theſe other remedies were uſed. Too ſtrict an attention to the falſe axiom, *poſt hoc ergo propter hoc*, has been the ſource of numerous errors in the practice of phyſic, and has raiſed the reputation of the phyſician and his remedies, when the merit was only due to nature.

of the diſeaſe, become ſoon of that nature, blood-letting muſt be employed with great caution.

1086. From the account now given of the nature of this diſeaſe, it will be ſufficiently obvious that the uſe of aſtringents in the beginning of it muſt be abſolutely pernicious.

1087. Whether an acrid matter be the original cauſe of this diſeaſe, may be uncertain: But, from the indigeſtion and the ſtagnation of fluids in the ſtomach which attend the diſeaſe, it may be preſumed that ſome acrid matters are conſtantly preſent in the ſtomach and inteſtines, and therefore that demulcents may be always uſefully employed. At the ſame time, from this conſideration, that mild oily matters thrown into the inteſtines in conſiderable quantity always prove laxative, I am of opinion that the oleaginous demulcents are the moſt uſeful *.

1088.

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* Some forms of theſe demulcents are given in the Pharmacopœias. The following may be added, for the ſake of variety, as the patient frequently loaths Linctuſes.

℞. Mann. opt.
Ol. amygdal. recent. *aa.* ℥i.
Syr. e Cort. aurant. ℥ſs.
M.

℞. Syr. althææ.
Ol. amygdal.
Elect. lenitiv. *aa.* ℥i.
M.

℞. Conſerv. cynoſbat. ℥i.
Syr. roſar.
Ol. Amygdal. *aa.* ℥ii.
M.

Two tea-ſpoonfuls of any of the above tinctures may be given every hour, or every other hour, drinking, at

the

1088. As this diſeaſe is ſo often of an inflammatory or of a putrid nature, it is evident that the diet employed in it ſhould be vegetable and aſceſcent. Milk in its entire ſtate is of doubtful quality in many caſes; but ſome portion of the cream is often allowable, and whey is always proper.

In the firſt ſtages of the diſeaſe, the ſweet and ſubacid fruits are allowable, and even proper. It is in the more advanced ſtages only that any morbid acidity ſeems to prevail in the ſtomach, and to require ſome reſerve in the uſe of aſceſcents. At the beginning of the diſeaſe, abſorbents ſeem to be ſuperfluous; and, by their aſtringent and ſeptic powers they may be hurtful.

1089.

the ſame time, barley-water with bruiſed prunes boiled in it.

The cure of the dyſentery is briefly comprehended in keeping the belly open, and uſing mucilaginous diluents and lubricants.

1089. When this diſeaſe is complicated with an intermittent fever, and is protracted from that circumſtance chiefly, it is to be treated as an intermittent, by adminiſtering the Peruvian bark, which, however, in the earlier periods of the diſeaſe, is hardly to be admitted.

PART II.

OF

NEUROSES,

OR

NERVOUS DISEASES.

1090. IN a certain view, almoſt the whole of the diſeaſes of the human body might be called NERVOUS; but there would be no uſe for ſuch a general appellation; and, on the other hand, it ſeems improper to limit the term, in the looſe inaccurate manner in which it has been hitherto applied, to hyſteric or hypochondriacal diſorders, which are themſelves hardly to be defined with ſufficient preciſion.

1091. In this place I propoſe to comprehend, under the title of NEUROSES, all thoſe preternatural affections of ſenſe or motion which are without pyrexia, as a part of the primary diſeaſe; and all thoſe which do not depend upon a topical affection of the organs, but upon a more general affection of the nervous ſyſtem, and of thoſe powers of the ſyſtem upon which ſenſe and motion more eſpecially depend.

1092. Of ſuch diſeaſes I have eſtabliſhed a claſs, under the title of NEUROSES or NERVOUS DISEASES. Theſe I again diſtinguiſh, as they conſiſt, either in the interruption and debility of the powers of ſenſe and motion, or in the irregularity with which theſe powers are exerciſed;

and have accordingly arranged them under the four orders of *Comata*, *Adynamiæ*, *Spaſmi*, and *Veſaniæ*, to be defined as we proceed to treat of them more particularly.

BOOK I.

OF

COMATA,

OR THE

LOSS OF VOLUNTARY MOTION.

1093. UNDER this title are comprehended thoſe affections which have been commonly called the Soporoſe diſeaſes; but they are moſt properly diſtinguiſhed by their conſiſting in ſome interruption or ſuppreſſion of the powers of ſenſe and voluntary motion, or of what are called the animal functions. Theſe are indeed uſually ſuſpended in the time of natural ſleep: But, of all the diſeaſes to be comprehended under our title, ſleep, or even the appearance of it, is not conſtantly a ſymptom. Of ſuch diſeaſes I can mark and properly explain two genera only, which come under the titles of *Apoplexy* and *Palſy*.

CHAP. I.

OF

APOPLEXY.

1094. APOPLEXY is that diſeaſe in which the whole of the external and internal ſenſes, and the whole of the voluntary motions, are in ſome degree aboliſhed; while reſpiration, and the action of the heart, continue to be performed *. By its being an affection of the

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* "The appearance of a profound and continual "ſleep"

whole of the powers of ſenſe and of voluntary motion, we diſtinguiſh it from *Palſy*; and by its being with the continuance of reſpiration and the action of the heart, it is diſtinguiſhed from *Syncope*. I have further added to the ordinary definition of apoplexy, that the abolition of the powers of

"ſleep" is by Boerhaave judiciouſly added to the definition of Apoplexy.

To diſtinguiſh between a profound ſleep and apoplexy, which very much reſemble each other, is, however, extremely eaſy. A man in a profound ſleep may in general be rouſed by the application of ſtrong ſtimulants to the organs of ſenſe, which produce no effect on an apoplectic patient.

To diſtinguiſh between apoplexy and a fit of drunkenneſs, is not ſo eaſy; for drunken people are ſometimes incapable of being rouſed by any ſtimulants, remaining totally inſenſible and motionleſs. The fumes of the liquor with which they have been intoxicated may ſometimes be diſcovered by ſmelling: A drunken fit may alſo be known by the paleneſs of the drunken man's face, and by his manner of living.

of ſenſe and motion is in *ſome degree* only; meaning by this to imply, that, under the title of Apoplexy, are here comprehended thoſe diſeaſes which, as differing from it in degree only, cannot, with a view either to pathology or practice, be properly diſtinguiſhed from it: Such are the diſeaſes ſometimes treated of under the names of *Carus*, *Cataphora*, *Coma*, and *Lethargus*.

1095. Apoplexy, in all its different degrees, moſt commonly affects perſons advanced in life, and eſpecially thoſe above ſixty years of age. It moſt uſually affects perſons of large heads and ſhort necks *, perſons of a corpulent habit, perſons who have paſſed an indolent life, and uſed a full diet, and eſpecially thoſe who have indul-

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* Different authors, one of whom is Boerhaave, have ſuppoſed that a vertebra is ſometimes wanting, the neck conſiſting only of ſix inſtead of ſeven vertebræ.

ged in frequent intoxication. Men who have long laboured under a frequent and copious diſcharge of blood from the hemorrhoidal veſſels, upon either the ſuppreſſion or ſpontaneous ceaſing of that diſcharge, are particularly liable to be affected with apoplexy.

1096. This diſeaſe frequently comes on very ſuddenly: But, in many caſes, it is preceded by various ſymptoms, ſuch as frequent fits of giddineſs, frequent headachs, a hemorrhagy from the noſe, ſome tranſitory interruption of ſeeing and hearing, ſome falſe viſion and hearing, ſome tranſitory degree of numbneſs or loſs of motion in the extremities, ſome faltering of the tongue in ſpeaking, a loſs of memory, a frequent drowſineſs, and frequent fits of incubus.

1097. An attention to theſe ſymptoms, and to the prediſponent circumſtances (1095.), (1095.), will often enable us to foreſee the more violent attacks of this diſeaſe.

1098. When the diſeaſe comes on ſuddenly to a conſiderable degree, it has been frequently obſerved to have been immediately induced by violent exerciſe; by a full and long continued inſpiration; by a fit of anger; by much external heat, eſpecially that ariſing from a crowded aſſembly of people; by warm bathing; by intoxication; by long ſtooping with the head down; and by a tight ligature about the neck. The diſeaſe has been remarked to make its attacks moſt frequently in the ſpring ſeaſon, and eſpecially when the vernal heat ſuddenly ſucceeds to the winter cold.

1099. The ſymptoms denoting the preſence of this diſeaſe will be ſufficiently known from the definition given 1094. Although the whole of the body is affected with the loſs of ſenſe and motion, it ſometimes takes place more upon one ſide of the body than the other; and, in that caſe, the ſide leaſt affected with palſy is ſometimes affected with convulſions. In this diſeaſe there is often a ſtertorous breathing; and this has been ſaid to be a mark of the moſt violent ſtate of the diſeaſe: But it is not always preſent, even in the moſt complete form, or moſt violent degree of the diſeaſe.

1100. The proximate cauſe of this diſeaſe may be, in general, whatever interrupts the motion of the nervous power from the brain to the muſcles of voluntary motion; or, in ſo far as ſenſe is affected, whatever interrupts the motion of the nervous power from the ſentient extremities of the nerves to the brain.

1101. Such an interruption of the motions of the nervous power may be occaſioned,

ſioned, either *by ſome compreſſion of the origin of the nerves*, or *by ſomething deſtroying the mobility of the nervous power.* Both theſe cauſes we muſt treat of more particularly; and, firſt, of that of compreſſion, ſeemingly the moſt frequent occaſion of apoplexy, and perhaps the occaſion of all thoſe apoplexies ariſing from internal cauſes.

1102. The loſs of ſenſe and motion, in particular parts of the body, may be occaſioned by a compreſſion, either of the origin of certain nerves only, or of the ſame nerves in ſome part of their courſe from the brain to the organs of ſenſe and motion. Such caſes of partial compreſſion will be more properly conſidered hereafter; and the affection I am now to treat of being general, it muſt depend upon a very general compreſſion of the origin of the nerves, or medullary portion of the brain;

and, therefore, this more general compreſſion only is to be conſidered here.

1103. This compreſſion of the origin of the nerves, or medullary portion of the brain, may be produced in different ways; as,

1. By external violence fracturing and preſſing in a part of the cranium.

2. By tumours, ſometimes ſoft, ſometimes bony, formed in different parts of the brain, or in its membranes, and becoming of ſuch a bulk as to compreſs the medullary ſubſtance of the brain.

3. By the blood being accumulated in the blood-veſſels of the brain, and diſtending them to ſuch a degree as to compreſs the medullary portion of the ſame.

4. By fluids effuſed in different parts of the brain, or into the cavity of the cranium, and accumulated in ſuch quantity as to occaſion the compreſſion we treat of.

And, as to this laſt, it is to be remarked here, that the fluids effuſed may be of two kinds: That is, they may be either a portion of the common maſs of blood, poured out from red veſſels; or a portion of ſerum or colourleſs fluid, poured out chiefly by exhalants.

1104. Of theſe ſeveral cauſes of compreſſion, the firſt is not to be conſidered here, becauſe the removing it does not belong to our province; and the conſideration of the ſecond may be omitted, as in moſt inſtances it is neither to be decerned nor cured by any means yet known. The third and fourth cauſes of compreſſion, as they are the moſt frequent, and are alſo moſt properly the ſubjects of our art, ſo they are thoſe which deſerve our particular attention; and we ſhall therefore endeavour to trace them further back in the ſeries of cauſes which may produce them.

1105. Both the ſtates of over-diſtention and of effuſion may be produced by whatever increaſes the afflux and impetus of the blood in the arteries of the head; ſuch as violent exerciſe, a violent fit of anger, external heat applied, or any ſtrong preſſure upon the deſcending aorta.

1106. But both theſe ſtates of over-diſtenſion and of effuſion may alſo, and ſeem to be, more frequently produced by cauſes that operate by preventing the free return of the venous blood from the veſſels of the head to the right ventricle of the heart.

1107. The venous veſſels of the brain are of a conformation and diſtribution ſo peculiar, as to lead us to believe, that Nature intended to retard the motion of the blood, and accumulate it in theſe veſſels; and, therefore, even very ſmall additional reſiſtances to the motion of the blood from theſe, toward the right ventricle of the heart, may ſtill more readily accumulate the blood in them. Such accumulation will moſt readily happen in advanced life, when the venous ſyſtem in general is in a plethoric ſtate, and when this plethora takes place eſpecially in the venous veſſels of the brain. It will, in like manner, be moſt apt to occur in perſons whoſe heads are large with reſpect to the reſt of the body; and, in perſons of a ſhort neck, which is unfavourable to the return of the venous blood from the head. The accumulation of blood in the venous veſſels of the brain will alſo be moſt likely to occur in perſons of a corpulent habit, either becauſe theſe may be conſidered to be in a plethoric ſtate, or becauſe obeſity, by occaſioning a compreſſion of the blood-veſſels in other parts of the body, more readily fills thoſe of the brain, which are entirely free from any ſuch compreſſion.

1108. Theſe are the circumſtances in

the conſtitution of the body, which, producing a ſlower motion and return of the venous blood from the veſſels of the head, favour an accumulation and diſtention in them; and we now proceed to mention the ſeveral occaſional cauſes, which, in every perſon, may directly prevent the free return of the blood from the veſſels of the head towards the heart. Such are,

1. Stooping down with the head, or other ſituations of the body in which the head is long kept in a depending ſtate, and in which the gravity of the blood increaſes the afflux of it by the arteries, and oppoſes the return of it by the veins.

2. A tight ligature about the neck, which compreſſes the veins more ſtrongly than the arteries.

3. Any obſtruction of a conſiderable number of the veins carrying the blood from the head, and more eſpecially any

conſiderable obſtruction of the aſcending vena cava.

4. Any conſiderable impediment of the free paſſage of the blood from the veins into the right ventricle of the heart; and it is commonly by this, and the immediately preceding circumſtances, that polypous concretions in the cava, or right ventricle, are found to occaſion apoplexy.

5. The return of blood from the veins of the head towards the heart, is eſpecially interrupted by every circumſtance that produces a more difficult tranſmiſſion of the blood through the veſſels of the lungs. It is well known, that, at the end of every expiration, ſome interruption is given to the free tranſmiſſion of the blood through the lungs; and that this at the ſame time gives an interruption to the motion of the blood from the veins into the right ventricle of the heart. This clearly appears from that regurgitation of the blood in

the veins which occaſions the alternate heaving and ſubſiding that is perceived in the brain of living animals when the cranium is removed, and which is obſerved to be ſynchronous with the alternate motions of reſpiration. From this we readily perceive, that whatever occaſions a difficulty in the tranſmiſſion of the blood through the lungs, muſt alſo interrupt the free return of the venous blood from the veſſels of the head; and muſt therefore favour, and perhaps produce, an accumulation of blood, and an over-diſtention in theſe veſſels.

It is further to be obſerved, that, as a very full inſpiration, continued for any length of time, occaſions ſuch an interruption of the free tranſmiſſion of the blood through the lungs, as produces a ſuffuſion of face, and a manifeſt turgeſcence of the blood-veſſels of the head and neck; ſo every full, and long-continued inſpiration may occaſion an accumulation of blood in the veſſels of the head, to a very conſiderable degree. Thus, as every ſtrong exertion of the muſcular force of the body requires, and is attended with, a very full and long-continued inſpiration, we thence learn why the violent exertions of muſcular force have been ſo often the immediate or exciting cauſes of apoplexy.

It may alſo be remarked, that corpulency and obeſity ſeem to operate very much, by occaſioning a more difficult tranſmiſſion of the blood through the veſſels of the lungs. It appears that, in fat perſons, from the compreſſion of the blood-veſſels in many parts of the body, the veſſels of the lungs are thereby kept very full; ſo that, upon the leaſt increaſe of bodily motion, which ſends the blood faſter into the lungs, a more frequent and laborious reſpiration becomes in ſuch perſons immediately neceſſary. This ſhows, that, in ſuch perſons, the blood is not freely tranſmitted through the lungs; a circumſtance which, as in other inſtances, muſt give a conſtant reſiſtance to the return of blood from the veſſels of the head, and therefore favour or occaſion an accumulation of blood in them.

Is the motion of the blood in the veſſels of the head rendered ſlower by ſtudy, care, and anxiety ?

1109. It is to be obſerved further, that theſe ſeveral cauſes (1105.—1108.) of a preternatural fulneſs in the blood-veſſels of the brain, may produce apoplexy in different ways, according as the fulneſs takes place in the arteries or in the veins.

1110. Accordingly, *firſt*, the increaſed afflux of blood into the arteries of the brain, and an increaſed action in theſe, may either occaſion a rupture of their extremities, and thereby an effuſion of red blood producing compreſſion ; or the ſame afflux and increaſed action may occaſion an increaſed exhalation from their extremities,

mities, of a ſerous fluid, which, if not as quickly reabſorbed, may ſoon accumulate in ſuch quantity as to produce compreſſion.

1111. *Secondly*, The plethoric ſtate of the venous veſſels of the brain may operate in three different ways.

1. The fulneſs of the veins may give ſuch reſiſtance to the blood flowing into them from the arteries, as to determine the impetus of the blood to be ſo much greater upon the extremities of the arteries as to occaſion a rupture of theſe, and conſequently an effuſion of red blood, or the *Hæmorrhagia cerebri*, which Hoffman conſiders as a frequent cauſe of apoplexy, and which we have before explained in 772.

2. Whilſt the ſame reſiſtance to the blood flowing from the arteries into the veins increaſes the impetus of the blood in the former, this may, without occaſioning rupture, increaſe the exhalation from their

exhalant extremities, and produce an effuſion of a ſerous fluid; in the ſame manner, as ſuch reſiſtance in the veins produces hydropic effuſions in other parts of the body.

3. If we may ſuppoſe, as no lymphatics have been yet diſcovered in the brain, that the ordinary abſorbents are not preſent there, and that the exhaled fluids are abſorbed or taken up by the extremities of the veins; this will ſhow ſtill more clearly that a reſiſtance to the motion of the blood in the veins of the brain may readily produce an accumulation of ſerous fluid in its cavities, and conſequently a compreſſion producing apoplexy.

1112. Beſides theſe caſes of apoplexy from afflux in the arteries, or reſiſtance in the veins, an effuſion of ſerum may happen from two other cauſes. The one is a relaxation of the exhalants, as in other caſes of hydropic diatheſis prevailing in the body;

body ; and it is not unuſual for a general dropſy to end in apoplexy. The ſecond is an over proportion of watery parts in the maſs of blood, which is therefore ready to run off by the exhalants, as in the caſe of an iſchuria renalis ; which, when it proves incurable, very commonly terminates in apoplexy.

1113. We have now mentioned the ſeveral cauſes of apoplexy depending upon compreſſion ; and, from the whole, it will appear that the moſt frequent of all theſe cauſes is a plethoric ſtate, or an accumulation and congeſtion of blood in the venous veſſels of the head operating, according to its degree, in producing over diſtention or effuſion. The frequent operation of ſuch a cauſe will eſpecially appear from a conſideration of the prediſponent circumſtances (1095.), and from the antecedent ſymptoms (1096.).

1114. From the view I have now given of the cauſes of apoplexy ariſing from compreſſion, it will readily appear that there is a foundation for the common diſtinction of this diſeaſe into the two kinds of Sanguine and Serous. But this diſtinction cannot be very uſefully applied in practice, as both kinds may often depend on the ſame cauſe, that is, a venous plethora, and therefore requiring very nearly the ſame method of cure. The only diſtinction that can be properly made of apoplexies from compreſſion is perhaps the diſtinction of ſerous apoplexy, into that depending on the plethora mentioned 1113. and that depending on hydropic diatheſis, or an over-proportion of water in the blood (1112.); the former cauſes giving a proper idiopathic, the latter only a ſymptomatic diſeaſe.

1115. Beſide the cauſes now mentioned, occaſioning apoplexy by compreſſion, I alledge there are other cauſes producing the ſame diſeaſe, by directly deſtroying the mobility of the nervous power. Such cauſes ſeem to be the mephitic, ariſing from fermenting liquors, and from many other ſources; the fumes ariſing from burning charcoal; the fumes of mercury, of lead, and of ſome other metallic ſubſtances; opium, alcohol, and many other narcotic poiſons: To all which I would add the power of cold, of concuſſion, of electricity, and of certain paſſions of the mind.

1116. None of theſe poiſons or noxious powers ſeem to kill, by acting firſt upon the organs of reſpiration, or upon the ſanguiferous ſyſtem; and I believe their immediate and direct action to be upon the nervous power, deſtroying its mobility, becauſe the ſame poiſons ſhow their power in deſtroying the irritability of muſcles and of the nerves connected with them, when both theſe are entirely ſeparated from the reſt of the body.

1117. It appears to me probable, that the apoplectic ſtate in ſome degree accompanying, and almoſt always ſucceeding, an epileptic paroxyſm, does not depend upon compreſſion, but upon a certain ſtate of immobility of the nervous power, produced by certain circumſtances in the nervous ſyſtem itſelf, which ſometimes ſeem to be communicated from one part of the body to another, and at length to the brain.

1118. The ſame obſervation may be made with reſpect to many inſtances of hyſteric paroxyſm; and the circumſtances, both of epileptic and hyſteric paroxyſms, ending in coma, or a degree of apoplexy, lead me to think, that alſo the apoplexy proceeding from retrocedent or atonic gout is of the ſame kind, or that it depends upon on an immobility of the nervous power, rather than upon compreſſion.

1119. It may indeed happen, that, as the apoplectic and gouty prediſpoſitions do often concur in the ſame perſon; ſo it may conſequently happen, that the apoplexy coming upon gouty perſons may ſometimes depend upon compreſſion; and diſſections may, accordingly, diſcover that the circumſtances of ſuch a cauſe had preceded. But, in many caſes of apoplexy following a retrocedent or atonic gout, no ſuch antecedent or concomitant circumſtances, as commonly occur in caſes of compreſſion, do diſtinctly or clearly appear; while others preſent themſelves, which point out an affection of the nervous power alone.

1120. With reſpect, however, to the circumſtances which may appear upon the diſſection of perſons dead of apoplexy, there may be ſome fallacy in judging, from thoſe circumſtances, of the cauſe of the diſeaſe. Whatever takes off or diminiſhes the mobility of the nervous power may very much retard the motion of the blood in the veſſels of the brain; and that perhaps to the degree of increaſing exhalation, or even of occaſioning rupture and effuſion: So that, in ſuch caſes, the marks of compreſſion may appear, upon diſſection, though the diſeaſe had truly depended on cauſes deſtroying the mobility of the nervous power. This ſeems to be illuſtrated and confirmed from what occurs in many caſes of epilepſy. In ſome of theſe, after a repetition of fits, recovered from in the uſual manner, a fatuity is induced, which commonly depends upon a watery inundation of the brain: And, in other caſes of epilepſy, when fits have been often repeated without any permanent conſequence, there happens at length a fatal paroxyſm; and, upon diſſection, it appears that an effuſion of blood had happened. This, I think, is to be conſidered as a cauſe of death, not as a cauſe of the diſeaſe: For, in ſuch caſes, I ſuppoſe that the diſeaſe had diminiſhed the action of the veſſels of the brain, and thereby given occaſion to a ſtagnation, which produced the appearances mentioned. And I apprehend the ſame reaſoning will apply to the caſes of retrocedent gout, which, by deſtroying the energy of the brain, may occaſion ſuch a ſtagnation as will produce rupture, effuſion, and death; and, in ſuch a caſe, the appearances upon diſſection might lead us to think that the apoplexy had depended entirely upon compreſſion.

1121. The ſeveral cauſes mentioned in 1115. are often of ſuch power as to occaſion immediate death; and therefore have not commonly been taken notice of as affording inſtances of apoplexy; but, as the operation of the whole of theſe cauſes is ſimilar and analogous, and as, in moſt inſtances,

ſtances of the operation of theſe cauſes an apoplectic ſtate is manifeſtly produced, there can be little doubt in conſidering moſt of the inſtances of their effects as caſes of apoplexy, and therefore ſuch as fall properly under our conſideration here.

1122. This diſeaſe of apoplexy is ſometimes entirely recovered from, but more frequently it ends in death, or in a hemiplegia. Even when an attack of the diſeaſe is recovered from, we generally find it diſpoſed to return; and the repeated attacks of it almoſt always, ſooner or later, bring on the events we have mentioned.

1123. The ſeveral events of this diſeaſe, in health, death, or another diſeaſe, may be expected and foreſeen from a conſideration of the prediſponent circumſtances (1095.); of the antecedent ſymptoms (1096.); of the exciting cauſes (1098.); of the violence and degree of the ſymptoms

toms when the diſeaſe has come on (1094.); of the duration of the diſeaſe; and of the effects of the remedies employed.

1124. From the great danger attending this diſeaſe when it has come on (1122.), it will readily appear that our care ſhould be chiefly directed to the prevention of it. This, I think, may be often done by avoiding the remote and exciting cauſes; and how this may be accompliſhed will be obvious from the enumeration of thoſe cauſes given above (1098.). But it will alſo appear, from what is ſaid above, that the prevention of this diſeaſe will eſpecially depend upon obviating the prediſponent cauſe; which, in moſt caſes, ſeems to be a plethoric ſtate of the blood-veſſels of the brain. This, I think, may be obviated by different means; and, in the firſt place, by a proper management of exerciſe and diet.

1125. The exerciſe ought to be ſuch as may ſupport the perſpiration, without heating the body, or hurrying reſpiration; and, therefore, commonly by ſome mode of geſtation. In perſons not liable to frequent fits of giddineſs, and who are accuſtomed to riding on horſeback, this exerciſe is, of all others, the beſt. Walking, and ſome other modes of bodily exerciſe, may be employed with the reſtrictions juſt now mentioned; but, in old men, and in men of corpulent habits, bodily exerciſe ought always to be very moderate.

1126. In perſons who pretty early in life ſhow the prediſpoſition to apoplexy, it is probable that a low diet, with a good deal of exerciſe, might entirely prevent the diſeaſe; but, in perſons who are advanced in life before they think of taking precautions, and are at the ſame time of a corpulent habit, which generally ſuppoſes their having been accuſtomed to full living,

ving, it might not be ſafe to put them upon a low diet: And it may be enough that their diet be rendered more moderate than uſual, eſpecially with reſpect to animal food; and that, at ſupper, ſuch food ſhould be abſtained from altogether.

In drinking, all heating liquors are to be abſtained from, as much as former habits will allow; and the ſmalleſt approach to intoxication is to be carefully ſhunned. For ordinary draught, ſmall beer is to be preferred to plain water, as the latter is more ready to occaſion coſtiveneſs, which, in apoplectic habits, is to be carefully avoided. The large uſe of tobacco in any ſhape may be hurtful; and, except in caſes where it has been accuſtomed to occaſion a copious excretion from the head, the interruption of which might not be ſafe, the uſe of tobacco ſhould be avoided; and, even in the circumſtances mentioned, where it may be in ſome meaſure neceſſary, the uſe of it ſhould at leaſt be rendered as moderate as poſſible.

1127. Evacuations by ſtool may certainly contribute to relieve the plethoric ſtate of the veſſels of the head; and, upon an appearance of any unuſual turgeſcence in theſe, purging will be very properly employed: But, when no ſuch turgeſcence appears, the frequent repetition of large purging might weaken the body too much; and, for preventing apoplexy, it may for the moſt part be enough to keep the belly regular, and rather open, by gentle laxatives *. In the ſummer ſeaſon, it may

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* Gentle laxatives have been often enumerated in the preceding notes. In theſe caſes, however, there is no danger to be apprehended from the uſe of the reſinous draſtics, provided that they are not given in ſuch doſes as may weaken the patient too much. They ought not to be uſed for the purpoſe of purging, but only

may be uſeful to drink, every morning, of a gentle laxative mineral water, but never in large quantity.

1128. In the caſe of a plethoric ſtate of the ſyſtem, it might be ſuppoſed that blood-letting would be the moſt effectual means of diminiſhing the plethora, and of preventing its conſequences: And, when an attack of apoplexy is immediately threatened, blood-letting is certainly the remedy to be depended upon; and blood ſhould be taken largely, if it can be done, from the jugular vein, or temporal artery. But, when no threatening turgeſcence appears, the

only for keeping the body moderately open; and this effect may be ſafely produced by five or eight grains of Rufus's pills taken occaſionally at bed time, or by a tea-ſpoonful or two of the Tinct. jalap. or a table ſpoonful of the elixir ſennæ in the morning. The ſame end may, in many caſes, be anſwered by a due attention to diet.

the obviating plethora is not judiciouſly attempted by blood-letting, as we have endeavoured to demonſtrate above, 787. In doubtful circumſtances, leeches applied to the temples, or ſcarifications of the hind-head, may be more ſafe than general bleedings.

1129. When there are manifeſt ſymptoms of a plethoric ſtate in the veſſels of the head, a ſeton, or pea-iſſue, near the head, may be very uſeful in obviating any turgeſcence of the blood.

1130. Theſe are the means to be employed for preventing the apoplexy which might ariſe from a plethoric ſtate of the veſſels of the brain; and if, at the ſame time, great care is taken to avoid the exciting cauſes, (1098.), theſe means will be generally ſucceſsful.

In the caſes proceeding from other cauſes, (1115.) as their application is ſo immediately ſucceeded by the diſeaſe, they hardly allow any opportunity for prevention.

1131. For the CURE of apoplexies from internal cauſes, and which I ſuppoſe to be chiefly thoſe from compreſſion, the uſual violence and fatality of it require that the proper remedies be immediately and largely employed.

The patient is to be kept as much as poſſible in ſomewhat of an erect poſture, and in cool air; and therefore, neither in a warm chamber, nor covered with bed-clothes, nor ſurrounded with a crowd of people.

1132. In all caſes of a full habit, and where the diſeaſe has been preceded by marks of a plethoric ſtate, blood-letting is to be immediately employed, and very largely. In my opinion, it will be moſt effectual when the blood is taken from the jugular vein ; but, if that cannot be properly done, it may be taken from the arm. The opening of the temporal artery, when a large branch can be opened, ſo as ſuddenly to pour out a conſiderable quantity of blood, may alſo be an effectual remedy; but, in execution, it is more uncertain, and may be inconvenient. It may be in ſome meaſure ſupplied, by cupping and ſcarifying on the temples or hind-head. This, indeed, ſhould ſeldom be omitted ; and theſe ſcarifications are always preferable to the application of leeches.

With reſpect to every mode of blood-letting, this is to be obſerved, that when, in any caſe of apoplexy, it can be perceived that one ſide of the body is more affected with the loſs of motion than the other, the blood-letting, if poſſible, ſhould be made on the ſide oppoſite to that moſt affected *.

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* Diſſections ſhew that the congeſtions producing apoplexy

1133. Another remedy to be employed is purging, to be immediately attempted by acrid glyſters *; and, at the ſame time, if

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apoplexy are always on the ſide not affected; and hence the propriety of the direction.

* Acrid glyſters are,

℞. Elect. lenitiv. ℥i.
Sal. cathartic. amar. ℥iiſs.
Aq. tepid. ℥xi.
M. f. Enema.

℞. Sapon. alb. ℥iſs.
Solve in aq. tepid. ℥x.; cui adde
Syr. e ſpina cerv. ℥ii.
M. f. Enema.

℞. Pulp. colocynth. ʒiii.
Coque per horæ quadrantem in aq. font. q. s. ad colaturae ℥xii.; cui adde
Ol. olivar. ℥i.
M. f. Enema.

any power of ſwallowing remain, by draſtic purgatives given by the mouth. Theſe, however, leſt they may excite vomiting, ſhould be given in divided portions, at proper intervals *.

1134. Vomiting has been commended by ſome practitioners and writers : But, apprehending that this might impel the blood with

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* The draſtic purges are, in theſe caſes, to be given in draughts, rather than in pills or boluſes. The following form may be uſed :

℞. Pulv. jalap. ʒi.
Rad. zinzib. ℈i.
Infuſ. ſem. lini ℥iii.
M.

The doſe of this mixture is two ſpoonfuls every two hours till it operate, or we may uſe one of the formula mentioned in the note on article 1080. eſpecially the laſt, repeating it every two hours till it produces an effect.

with too much violence into the veſſels of the head, I have never employed it.

1135. Another remedy to be immediately employed is bliſtering; and I judge that this is more effectual when applied to the head, or near to it, than when it is applied to the lower extremities. This remedy I do not conſider as a ſtimulant, or capable of making any conſiderable revulſion: But, applied to the head, I ſuppoſe it uſeful in taking off the hemorrhagic diſpoſition ſo often prevailing there.

1136. It has been uſual with practitioners, together with the remedies already mentioned, to employ ſtimulants of various kinds; but I am diſpoſed to think them generally hurtful; and they muſt be ſo, wherever the fulneſs of the veſſels, and the impetus of the blood in theſe, is to be diminiſhed. Upon this principle it is therefore agreed, that ſtimulants are abſolutely improper in what is ſuppoſed to be a ſanguine apoplexy; but they are commonly ſuppoſed to be proper in the ſerous If, however, we be right in alleging that this alſo commonly depends upon a plethoric ſtate of the blood veſſels of the brain, ſtimulants muſt be equally improper in the one caſe as in the other.

1137. It may be argued, from the almoſt univerſal employment of ſtimulants, and ſometimes with ſeeming advantage, that they may not be ſo hurtful as my notions of the cauſes of apoplexy lead me to ſuppoſe. But this argument is, in ſeveral reſpects, fallacious; and particularly in this, that, in a diſeaſe which, under every management, often proceeds ſo quickly to a fatal termination, the effects of remedies are not to be eaſily aſcertained.

1138. I have now mentioned the ſeveral remedies which I think adapted to the cure of apoplexy ariſing from compreſſion, and ſhould next proceed to treat of the cure of apoplexy ariſing from thoſe cauſes that directly deſtroy the mobility of the nervous power. But many of thoſe cauſes are often ſo powerful, and thereby ſo ſuddenly fatal in their effects, as hardly to allow of time for the uſe of remedies; and ſuch caſes, therefore, have been ſo ſeldom the ſubjects of practice, that the proper remedies are not ſo well aſcertained as to enable me to ſay ſo much of them here.

1139. When, however, the application of the cauſes (1115.) is not ſo powerful as immediately to kill, and induces only an apoplectic ſtate, ſome efforts are to be made to obviate the conſequences, and to recover the patient: And, even in ſome caſes where the cauſes referred to, from the ceaſing of the pulſe and of reſpiration, and from a coldneſs coming upon the body, have induced an appearance of death; yet, if theſe appearances have not continued long, there may be means of recovering the perſons to life and health. I cannot, indeed, treat this ſubject completely; but, for the cure of apoplexy from ſeveral of the cauſes mentioned 1115. ſhall offer the following general directions.

1. When a poiſon capable of producing apoplexy has been recently taken into the ſtomach, if a vomiting ſpontaneouſly ariſes, it is to be encouraged; or, if it does not ſpontaneouſly come on, a vomiting is to be immediately excited by art, in order that the poiſon may be thrown out as quickly as poſſible. If, however, the poiſon has been taken into the ſtomach long before its effects have appeared, we judge that, upon their appearance, the exciting of vomiting will be uſeleſs, and may perhaps be hurtful.

2. When the poiſon taken into the ſtomach, or otherwiſe applied to the body,

has already induced an apoplectic ſtate, as thoſe cauſes do commonly at the ſame time occaſion a ſtagnation or ſlower motion of the blood in the veſſels of the brain and of the lungs, ſo it will generally be proper to relieve this congeſtion by taking ſome blood from the jugular vein, or from the veins of the arm.

3. Upon the ſame ſuppoſition of a congeſtion in the brain or lungs, it will generally be proper to relieve it by means of acrid glyſters producing ſome evacuation from the inteſtines.

4. When theſe evacuations by blood-letting and purging have been made, the various ſtimulants which have been commonly propoſed in other caſes of apoplexy may be employed here with more probability and ſafety *. One of the moſt effectual

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* The ſtimulants are various according to the various

tual means of rouſing apoplectics of this kind ſeems to be throwing cold water on ſeveral parts of the body, or waſhing the body all over with it.

5. Although the poiſon producing apoplexy happens to be ſo powerful as very ſoon to occaſion the appearances of death above mentioned ; yet, if this ſtate has not continued long, the patient may often be recoverable ; and the recovery is to be attempted by the ſame means that are directed

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rious parts of the body to which they are generally applied, as volatile and vinous ſpirits, or vinegar, to the noſe and temples; acrid eſſential oils, mixed with thrice their weight of hogs-lard, to the breaſt and back ; bliſters, hot ſinapiſms, and warm fomentations, with horſe radiſh, to the extremities ; frictions with warm bruſhes ; the actual cautery to the ſoles of the feet, and palms of the hand ; with ſeveral others, which are more particularly deſcribed in the notes on article 1161. *et ſeq.*

ted to be employed for the recovery of drowned perſons, and which are now commonly known.

CHAP.

CHAP. II.

OF

PALSY.

1140. PALSY is a diſeaſe conſiſting in a loſs of the power of voluntary motion, but affecting certain parts of the body only, and by this it is diſtinguiſhed from apoplexy (1094.). One of the moſt frequent forms of palſy is when it affects the whole of the muſcles on one ſide of the body ; and then the diſeaſe is named a *Hemiplegia.*

1141. The loſs of the power of voluntary motion may be owing either to a morbid affection of the muſcles or organs of motion, by which they are rendered unfit for motion ; or to an interruption of the influx of the nervous power into them, which is always neceſſary to the motions of thoſe that are under the power of the will. The diſeaſe, from the firſt of theſe cauſes, as conſiſting in an organic and local affection, we refer entirely to the claſs of local diſeaſes. I am here to conſider that diſeaſe only which depends upon the interrupted influx of the nervous power ; and it is to this diſeaſe alone I would give the appellation of *Palſy.* A diſeaſe depending on an interrupted influx of the nervous power, may indeed often appear as merely a local affection ; but, as it depends on an affection of the moſt general powers of the ſyſtem, it cannot be properly ſeparated from the ſyſtematic affections.

1142. In palſy, the loſs of motion is often accompanied with the loſs of ſenſe; but, as this is not conſtantly the caſe, and as therefore the loſs of ſenſe is not an eſſential ſymptom of palſy, I have not taken it into my definition (1140.); and I ſhall not think it neceſſary to take any further notice of it in this treatiſe; becauſe, in ſo far as it is in any caſe a part of the paralytic affection, it muſt depend upon the ſame cauſes, and will be cured alſo by the very ſame remedies as the loſs of motion.

1143. The palſy, then, or loſs of motion, which is to be treated of here, may be diſtinguiſhed as of two kinds; one of them depending upon an affection of the origin of the nerves in the brain, and the other depending upon an affection of the nerves in ſome part of their courſe between the brain, and the organs of motion. Of the latter, as appearing in a very partial affection, I am not to ſpeak particularly here; I ſhall only treat of the more general paralytic affections, and eſpecially of the hemiplegia (1140.). At the ſame time, I expect that what I ſhall ſay upon this ſubject will readily apply to both the pathology and practice in the caſes of affections more limited.

1144. The hemiplegia (1140.) uſually begins with, or follows, a paroxyſm of apoplexy; and, when the hemiplegia, after ſubſiſting for ſome time, becomes fatal, it is commonly by paſſing again into the ſtate of apoplexy. The relation, therefore, or affinity between the two diſeaſes, is ſufficiently evident; and is further ſtrongly confirmed by this, that the hemiplegia comes upon perſons of the ſame conſtitution (1095.), and is preceded by the ſame ſymptoms (1098.), that have been taken notice of with reſpect to apoplexy.

1145. When a fit of apoplexy has gone off, and there remains a ſtate of palſy appearing as a partial affection only, it might perhaps be ſuppoſed that the origin of the nerves is in a great meaſure relieved; but, in ſo far, as commonly there ſtill remain the ſymptoms of the loſs of memory, and of ſome degree of fatuity, theſe, I think, ſhow that the organ of intellect, or the common origin of the nerves, is ſtill conſiderably affected.

1146. Thus, the hemiplegia, from its evident connection with, and near relation to, apoplexy, may be properly conſidered as depending upon like cauſes; and conſequently, either upon a compreſſion preventing the flow of the nervous power from the brain into the organs of motion, or upon the application of narcotic or other

ther powers (1115.) rendering the nervous power unfit to flow in the uſual and proper manner.

1147. We begin with conſidering the caſes depending upon compreſſion.

The compreſſion occaſioning hemiplegia may be of the ſame kind, and of all the different kinds that produce apoplexy; and therefore, either from tumour, over-diſtention, or effuſion. The exiſtence of tumour giving compreſſion may often be better diſcerned in the caſe of palſy, than in that of apoplexy, as its effects often appear at firſt in a very partial affection.

1148. The other modes of compreſſion, that is, of over-diſtention and effuſion, may, and commonly do, take place, in hemiplegia; and, when they do, their operation here differs from that producing a-

poplexy,

poplexy, by its effects being partial, and on one ſide of the body only.

It may ſeem difficult to conceive that an over-diſtention can take place in the veſſels on one ſide of the brain only ; but it may be underſtood : And, in the caſe of a palſy, which is both partial and tranſitory, it is perhaps the only condition of the veſſels of the brain that can be ſuppoſed. In a hemiplegia, indeed, which ſubſiſts for any length of time, there is probably always an effuſion, either ſanguine or ſerous : But it is likely that even the latter muſt be ſupported by a remaining congeſtion in the blood-veſſels.

1149. That a ſanguine effuſion can happen without becoming very ſoon general, and thereby occaſioning apoplexy and death, may alſo ſeem doubtful : But diſſections prove that, in fact, it does happen, occaſioning palſy only ; though, it is true, that this more commonly depends upon an effuſion of ſerous fluid, and of this only.

1150. Can a palſy, occaſioned by a compreſſion, remain, though the compreſſion be removed *?

1151. From what has been ſaid 1144. it will be obvious that the hemiplegia may be prevented by all the ſeveral means propoſed 1125. *et ſeq.* for the prevention of apoplexy.

1152. Upon the ſame grounds, the CURE of palſy muſt be very much the ſame with that of apoplexy (1130. *et ſeq*); and, when palſy has begun as an apoplexy, it

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* This queſtion may be anſwered in the affirmative; becauſe the ſtructure of the nerve may be deſtroyed by the compreſſion, and the nerve may therefore remain impervious to the nervous influence after the compreſſion has been removed.

is preſumed, that, before it is to be conſidered as palſy, all thoſe ſeveral remedies have been employed. Indeed, even when it happens that, on the firſt attack of the diſeaſe, the apoplectic ſtate is not very complete, and that the very firſt appearance of the diſeaſe is as a hemiplegia, the affinity between the two diſeaſes (1144.) is ſuch as to lead to the ſame remedies in both caſes. This is certainly proper in all thoſe caſes in which we can with much probability impute the diſeaſe to compreſſion; and it is indeed ſeldom that a hemiplegia from internal cauſes comes on but with a conſiderable affection of the internal, and even of the external ſenſes, together with other marks of a compreſſion of the origin of the nerves.

1153. Not only, however, where the diſeaſe can be imputed to compreſſion, but, even where it can be imputed to the application of narcotic powers, if the diſeaſe come on with the appearances mentioned at the end of the laſt paragraph, it is to be treated in the ſame manner as an apoplexy by 1131.—1139.

1154. The cure of hemiplegia, therefore, on its firſt attack, is the ſame, or very nearly the ſame, with that of apoplexy; and it ſeems requiſite that it ſhould be different only,

1. When the diſeaſe has ſubſiſted for ſome time;

2. When the apoplectic ſymptoms, or thoſe * marking a conſiderable compreſſion of the origin of the nerves, are removed; and, particularly,

3. When there are no evident marks of compreſſion, and it is at the ſame time

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* The moſt infallible of theſe marks is the intellectual faculties not returning.

known that narcotic powers have been applied.

1155. In all theſe caſes, the queſtion ariſes, Whether ſtimulants may be employed, or how far the cure may be entirely truſted to ſuch remedies ? Upon this queſtion, with reſpect to apoplexy, I have offered my opinion in 1136. And, with reſpect to hemiplegia, I am of opinion that ſtimulants are almoſt always equally dangerous as in the caſes of complete apoplexy ; and particularly,

1. In all the caſes of hemiplegia ſucceeding to a paroxyſm of complete apoplexy;

2. In all the caſes coming upon perſons of the temperament mentioned in 1095. and after the ſame antecedents as thoſe of apoplexy (1116.) ; and,

3. In all the caſes coming on with ſymptoms of apoplexy from compreſſion.

1156. It is, therefore, in the caſes 1154. only that ſtimulants are properly admiſſible: And, even in the two firſt of theſe caſes, in which a plethoric ſtate of the blood-veſſels of the brain may have brought on the diſeaſe, in which a diſpoſition to that ſtate may ſtill continue, and in which even ſome degree of congeſtion may ſtill remain, the uſe of ſtimulants muſt be an ambiguous remedy; ſo that perhaps it is in the third of theſe caſes only that ſtimulants are clearly indicated and admiſſible.

1157. Theſe doubts, with reſpect to the uſe of ſtimulants, may perhaps be overlooked or diſregarded by thoſe who allege that ſtimulants have been employed with advantage even in thoſe caſes (1155.) in which I have ſaid they ought to be avoided.

1158. To compromiſe this contrariety

of opinion, I muſt obſerve, that, even in the caſes of hemiplegia depending upon compreſſion, although the origin of the nerves be ſo much compreſſed as to prevent ſo full a flow of the nervous power as is neceſſary to muſcular motion, yet, it appears from the power of ſenſe ſtill remaining, that the nerves are, to a certain degree, ſtill pervious; and therefore it is poſſible that ſtimulants applied, may excite the energy of the brain ſo much, as in ſome meaſure to force open the compreſſed nerves, and to ſhow ſome return of motion in paralytic muſcles. Nay, further, it may be allowed, that, if theſe ſtimulants be ſuch as act more upon the nervous than upon the ſanguiferous ſyſtem, they may poſſibly be employed without any very hurtful conſequence.

1159. But ſtill it will be obvious, that, although certain ſtimulants act chiefly upon the nervous ſyſtem, yet they alſo act always in ſome meaſure upon the ſanguiferous; ſo that, when they happen to have the latter effect in any conſiderable degree, they may certainly do much harm; and, in a diſeaſe which they do not entirely cure, the miſchief ariſing from them may not be diſcerned.

1160. Whilſt the employment of ſtimulants is ſo often an ambiguous practice, we may perhaps go ſome length towards aſcertaining the matter, by conſidering the nature of the ſeveral ſtimulants which may be employed, and ſome of the circumſtances of their adminiſtration. With this view, therefore, I ſhall now mention the ſeveral ſtimulants that have been commonly employed, and offer ſome remarks upon their nature and uſe.

1161. They are, in the firſt place, to be diſtinguiſhed as external or internal. Of the firſt kind, we again diſtinguiſh them as they are applied to particular parts of the body only, or as they are more generally applied to the whole ſyſtem. Of the firſt kind are,

1. The concentrated acids of vitriol or nitre; involved, however, in oily or unctuous ſubſtances, which may obviate their corroſive, without deſtroying their ſtimulant power *.

2. The

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* Rubifacient ointments are compoſitions like the following:

℞. Axung. porcin. ℥ii.
Acid. vitriol. ʒi.
M. Or,

℞. Unguent. baſilic. flav. ℥ii.
Acid. vitriol. ʒi.
M.

They ſoon redden and inflame the ſkin; and, when this effect is produced, they muſt be taken off, and the part anointed with common ointment, or with oil.

2. The volatile alkaline ſpirits, eſpecially in their cauſtic ſtate; but involved alſo in oils, for the purpoſe juſt now mentioned *.

3. The ſame volatile ſpirits are frequently employed by being held to the noſe, when they prove a powerful ſtimulus to the nervous ſyſtem; but it is at the ſame time probable that they may alſo prove a ſtrong ſtimulant to the blood-veſſels of the brain.

4. A

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* The Linimenta volatilia of the Pharmacopœias are not ſo ſtrong as the following:

℞. Alkal. volatil. cauſtic. ℥i.
Ol. olivar. ℥ii.
M.

In the new London Pharmacopœia this compoſition is called Linimentum Ammoniæ Fortius.

4. A brine, or ſtrong ſolution of ſea-ſalt *.

5. The eſſential oils of aromatic plants †, or of their parts.

6 The eſſential oils of turpentine, or of other ſuch reſinous ſubſtances.

7. The

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* The brine that remains in the ſalt-pans, after the common ſalt is cryſtallized, is the moſt effectual of theſe briny ſtimulants. It is called in Edinburgh Oil of Salt.

† The Ol. Origani is generally uſed. It ought to be mixed with ſome unctuous oil, as in the following formula:

℞. Ol. origan. ʒii.
Axung. porcin. ℥iv.
M.

The aromatic oils diſſolved in ſpirit make an elegant application, but the diſtilled ſpirits of the plants themſelves are more in uſe.

7. The diſtilled oils of amber, or of other bituminous foſſils *.

8. The rectified empyreumatic oils of animal or vegetable ſubſtances †.

9. Various vegetable acrids, particularly muſtard ‡.

10. The

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* They are generally uſed with hogs-lard, in the proportion of eight times their quantity of lard. Some practitioners, however, take only twice the quantity of lard; but they are not ſo effectual as ſome of the rubefacients above enumerated.

† The uſe of theſe empyreumatic oils is not ſo frequent now as formerly; they are extremely acrid, and, if not uſed with caution, often corrode the ſkin.

‡ The form, in which flower of muſtard is uſed, is called a Sinapiſm. It is mixed with an equal quantity of bread-crumb or oat-meal, and made into a paſte with vinegar. Some practitioners add bruiſed garlic, in the proportion of one fourth of the quantity of muſtard; but

10. The acrid matter found in ſeveral inſects, particularly cantharides *.

Some of theſe ſtimulants may be either applied in ſubſtance, or may be diſſolved in ardent ſpirits, by which their ſtimulant power may be increaſed, or more conveniently applied.

1162. The greater part of the ſubſtances now enumerated ſhow their ſtimulant power by inflaming the ſkin of the part to which they are applied ; and, when their application is ſo long continued as to produce this effect, it interrupts the continuance of their uſe ; and the inflammation of the part does not ſeem to do ſo much good

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but it is extremely offenſive, and the cataplaſm, without it, anſwers ſufficiently well.

* Theſe inſects are the baſis of the bliſtering plaſters and ointments.

good as the frequent repetition of a more moderate ſtimulus.

1163. Analogous to theſe ſtimulants is the ſtinging of nettles, which has been frequently commended.

Among the external ſtimulants, the mechanical one of friction with the naked hand, the fleſh-bruſh, or flannel, is juſtly to be reckoned. Can the impregnation of the flannels to be employed, with the fumes of burning maſtic, olibanum, &c. be of any ſervice * ?

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* Many practitioners have thought that ſuch impregnations have been of ſingular ſervice. The fumes of moſt of theſe reſins are either flowers, as they are called in the ſhops, or eſſential oils, both of which are ſtimulating, and may therefore be ſuppoſed to be active.

1164. With reſpect to the whole of theſe external ſtimulants, it is to be obſerved, that they affect the part to which they are applied much more than they do the whole ſyſtem, and they are therefore indeed ſafer in ambiguous caſes; but, for the ſame reaſon, they are of leſs efficacy in curing a general affection.

1165. The external applications which may be applied to affect the whole ſyſtem are the powers of heat and cold, and of electricity.

Heat, as one of the moſt powerful ſtimulants of the animal economy, has been often employed in palſies, eſpecially by warm bathing. But as, both by ſtimulating the ſolids, and rarefying the fluids, this

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The impregnating flannels or fleſh-bruſhes with flour of muſtard is often uſed, and aſſiſts conſiderably in bringing on an inflammation.

this proves a ſtrong ſtimulus to the ſanguiferous ſyſtem, it is often an ambiguous remedy; and has frequently been manifeſtly hurtful in palſies depending upon a congeſtion of blood in the veſſels of the brain. The moſt certain, and therefore the moſt proper uſe of warm bathing in palſies, ſeems to be in thoſe that have been occaſioned by the application of narcotic powers. Are the natural baths more uſeful by the matters with which they may be naturally impregnated [*]?

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[*] The natural baths contain ſo ſmall a quantity of impregnating ſubſtances as induces us to ſuſpect that they cannot have any beneficial powers ſuperior to thoſe of ordinary warm baths.

The uſe of warm baths ought not to be promiſcuous. In caſes of palſies, ariſing from certain poiſons, as the fumes of arſenic or metals, and their ores, the warm baths ſeldom fail of procuring relief; and ſome inſtances have been given by authors of complete cures having been performed by the uſe of baths alone.

1166. Cold applied to the body for any length of time is always hurtful to paralytic perſons; but, if it be not very intenſe, nor the application long continued, and if, at the ſame time, the body be capable of a briſk reaction, ſuch an application of cold is a powerful ſtimulant of the whole ſyſtem, and has often been uſeful in curing palſy. But, if the power of reaction in the body be weak, any application of cold may prove very hurtful *.

1167. Electricity, in a certain manner applied, is certainly one of the moſt powerful ſtimulants that can be employed to act upon the nervous ſyſtem of animals; and therefore much has been expected from it

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* The very great uncertainty of the power of reaction always makes the application of cold a very doubtful remedy; and, as it is evidently hurtful wherever the reaction is weak, it ought to be uſed with extreme caution.

it in the cure of palſy. But, as it ſtimulates the ſanguiferous as well as the nervous ſyſtem, it has been often hurtful in palſies depending upon a compreſſion of the brain; and eſpecially when it has been ſo applied as to act upon the veſſels of the head. It is ſafer when its operation is confined to particular parts ſomewhat remote from the head; and, further, as the operation of electricity, when very ſtrong, can deſtroy the mobility of the nervous power, I am of opinion, that it is always to be employed with caution, and that it is only ſafe when applied with moderate force, and, when confined to certain parts of the body remote from the head. It is alſo my opinion that its good effects are to be expected from its repetition rather than from its force, and that it is particularly ſuited to the cure of thoſe palſies which have been produced by the application of narcotic powers.

1168. Amongſt the remedies of palſy, the uſe of exerciſe is not to be omitted. In a hemiplegia, bodily exerciſe cannot be employed; and, in a more limited affection, if depending upon a compreſſion of ſome part of the brain, it would be an ambiguous remedy; but, in all caſes where the exerciſe of geſtation can be employed, they are proper; as, even in caſes of compreſſion, the ſtimulus of ſuch exerciſe is moderate, and therefore ſafe; and, as it always determines to the ſurface of the body, it is a remedy in all caſes of internal congeſtion.

1169. The internal ſtimulants employed in palſy are various, but chiefly the following:

1. The volatile alkaline ſalts, or ſpirits, as they are called, are very powerful and diffuſive ſtimulants, operating eſpecially on the nervous ſyſtem *; and, even although they

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* Of theſe there are ſeveral formulæ in the ſhops, as,

they operate on the ſanguiferous, yet, if given in frequently repeated ſmall rather than in large doſes, their operation being tranſitory, is tolerably ſafe.

2. The vegetables of the claſs named Tetradynamia are many of them powerful diffuſive ſtimulants; and, at the ſame time, as quickly paſſing out of the body, and therefore of tranſitory operation, they are often

as, Spiritus volatilis aromaticus, Spiritus volatilis oleoſus, Spiritus ſalinus aromaticus. Their doſe is from ten to ſixty drops. The Eau de Luce ought to be mentioned here, though it is ſeldom uſed internally, but only for ſmelling to, as it is extremely penetrating. It is prepared thus: Mix together in a retort forty drops of rectified oil of amber, an ounce of rectified ſpirit of wine, and twelve ounces of the ſtrongeſt cauſtic volatile alkali. They muſt be diſtilled with a very moderate fire. It is ſeldom limpid, but has a milky appearance, owing to the imperfect ſolution of the oil in the ſpirit; and, if the alkali be not very cauſtic, ſcarcely any of the oil is diſſolved.

often employed with ſafety *. As they commonly prove diuretic, they may in this way alſo be of ſervice in ſome caſes of ſerous palſy.

3. The various aromatics, whether employed in ſubſtance, in tincture, or in their eſſential oils, are often powerful ſtimulants; but, being more adheſive and inflammatory than thoſe laſt mentioned, they are

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* White muſtard ſeeds may be given whole, in the quantity of two tea-ſpoonfuls in a half tea-cupful of cold water. They ought to be ſwallowed whole, that their acrid taſte may not be perceived. The doſe may be repeated twice or thrice a-day. Horſe-radiſh is another plant of this claſs of vegetables that has been much recommended; it muſt be given in a cold watery infuſion, or in an infuſion in ale. The ſcurvy-graſs is another of the ſame claſs; it may be eaten raw, or we may give forty or fifty drops of the Spiritus cochleariæ, either on a piece of ſugar, or mixed with half an ounce of ſyrup, four or five times a-day. This ſpirit ought to be kept well corked, as it ſoon loſes all its activity, if it be expoſed to the air.

are therefore, in all ambiguous caſes, leſs ſafe *.

4. Some other acrid vegetables have been employed; but we are not well acquainted with their peculiar virtues, or proper uſe.

5. Some reſinous ſubſtances, as guaiacum, and the terebinthinate ſubſtances, or their eſſential oils, have been, with ſome probability, employed; but they are apt to become inflammatory. Decoctions of guaiacum, and ſome other ſudorifics, have been directed to excite ſweating by the application

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* The aromatics beſt adapted for ſtimulating, in theſe caſes, are ſuch as Linne calls Spirantia; the chief of them are, Marum, Roſemary, Lavender, &c. Their ſpirituous waters are much more efficacious than the plants in ſubſtance, or in any other form; and their efficacy is conſiderably increaſed by uniting them to volatile ſpirits, as in ſome of the formulæ mentioned in the firſt note on this article.

application of the fumes of burning ſpirit of wine in the laconicum, and have in that way been found uſeful.

6. Many of the fetid antiſpaſmodic medicines have been frequently employed in palſy; but I do not perceive in what manner they are adapted to the cure of this diſeaſe, and I have not obſerved their good effects in any caſes of it.

7. Bitters, and the Peruvian bark, have alſo been employed; but with no propriety or advantage that I can perceive *.

1170. With reſpect to the whole of theſe internal ſtimulants, it is to be obſerved, that they ſeldom prove very powerful;

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* In ſome caſes, paralytic patients, for want of exerciſe, ſink into a ſtate of debility, with loſs of appetite, and conſequent emaciation, in which bitters, Peruvian bark, and other tonics, are frequently of ſome advantage.

ful ; and, wherever there is any doubt concerning the nature or ſtate of the diſeaſe, they may readily do harm, and are often therefore of ambiguous uſe.

BOOK II.

OF

ADYNAMIÆ;

OR,

DISEASES CONSISTING IN A WEAKNESS OR LOSS OF MOTION IN EITHER THE VITAL OR NATURAL FUNCTIONS.

CHAP. I.

OF

SYNCOPE OR FAINTING.

1171. THIS is a diſeaſe in which the action of the heart and reſpiration become conſiderably weaker than uſual,

ſual, or in which, for a certain time, theſe functions ceaſe altogether.

1172. Phyſicians having obſerved that this affection occurs in different degrees, have endeavoured to diſtinguiſh theſe by different appellations: But, as it is not poſſible to aſcertain theſe different degrees with any preciſion, ſo there can be no ſtrict propriety in employing thoſe different names; and I ſhall here comprehend the whole of the affections of this kind under the title of Syncope.

1173. This diſeaſe ſometimes comes on ſuddenly to a conſiderable degree, but ſometimes alſo it comes on gradually; and, in the latter caſe, it uſually comes on with a ſenſe of languor, and of anxiety about the heart, accompanied at the ſame time, or immediately after, with ſome giddineſs, dimneſs of ſight, and ſounding in the ears. Together with theſe ſymptoms, the pulſe and reſpiration become weak; and often ſo weak, that the pulſe is ſcarcely to be felt, or the reſpiration to be perceived; and ſometimes theſe motions, for a certain time, ceaſe altogether. While theſe ſymptoms take place, the face and whole ſurface of the body become pale, and more or leſs cold, according to the degree and duration of the paroxyſm. Very commonly, at the beginning of this, and during its continuance, a cold ſweat appears, and perhaps continues, on the forehead, as well as on ſome other parts of the body. During the paroxyſm, the animal functions, both of ſenſe and motion, are always in ſome degree impaired, and very often entirely ſuſpended. A paroxyſm of ſyncope is often, after ſome time, ſpontaneouſly recovered from; and this recovery is generally attended with a ſenſe of much anxiety about the heart.

Fits of ſyncope are frequently attended with, or end in, vomiting; and ſometimes with convulſions, or an epilectic fit.

1174. Theſe are the phenomena in this diſeaſe; and, from every view of the greateſt part of them, there cannot be a doubt that the proximate cauſe of this diſeaſe is a very weak or a total ceaſing of the action of the heart. But it will be a very difficult matter to explain in what manner the ſeveral remote cauſes operate in producing the proximate cauſe. This, however, I ſhall attempt, though with that diffidence which becomes me in attempting a ſubject that has not hitherto been treated with much ſucceſs.

1174*. The remote cauſe of ſyncope may, in the firſt place, be referred to two general heads. The one is, of thoſe cauſes exiſting and acting in the brain, or in parts of the body remote from the heart, but acting upon it by the intervention of the brain. The other general head of the remote cauſes of ſyncope is of thoſe exiſting in the heart itſelf, or in parts very immediately connected with it, and thereby acting more directly upon it in producing this diſeaſe.

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* The paragraphs were thus numbered in the laſt edition.

1175. In entering upon the conſideration of the firſt ſet of thoſe cauſes (1174.), I muſt aſſume a propoſition which I ſuppoſe to be fully eſtabliſhed in Phyſiology. It is this: That, though the muſcular fibres of the heart be endowed with a certain degree of inherent power, they are ſtill, for ſuch action as is neceſſary to the motion of the blood, very conſtantly dependent upon a nervous power ſent into them from the brain *. At leaſt this is evident,

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* The author here differs ſomewhat in opinion from other phyſiologiſts. He allows, indeed, that the heart poſſeſſes a vis inſita in a certain degree, but he will not allow

evident, that there are certain powers acting primarily, and perhaps only in the brain, which influence and variouſly modify the action of the heart. I ſuppoſe, therefore, a force very conſtantly during life exerted in the brain, with reſpect to the moving fibres of the heart, as well as of every part of the body; which force I ſhall call the Energy of the Brain; and which I ſuppoſe may be, on different occaſions, ſtronger or weaker with reſpect to the heart.

1176.

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allow this vis inſita to be ſufficiently ſtrong for carrying on the circulation; and he thinks that ſome energy muſt be imparted to the heart from the brain, in order to enable that important muſcle to perform its office.

In ſupport of this opinion, we have a plain fact, which the author might have adduced, viz. that a ligature on the nerves going to the heart immediately ſtops its motions.

1176. Admitting theſe propoſitions, it will be obvious, that, if I can explain in what manner the firſt ſet of remote cauſes (1174.) diminiſh the energy of the brain, I ſhall at the ſame time explain in what manner theſe cauſes occaſion a ſyncope.

1177. To do this, I obſerve, that one of the moſt evident of the remote cauſes of ſyncope is a hemorrhagy, or an evacuation of blood, whether ſpontaneous or artificial. And, as it is very manifeſt that the energy of the brain depends upon a certain fulneſs and tenſion of its blood-veſſels, for which nature ſeems to have induſtriouſly provided by ſuch a conformation of thoſe blood-veſſels as retards the motion of the blood both in the arteries and veins of the brain; ſo we can readily perceive, that evacuations of blood, by taking off the fulneſs and tenſion of the blood-veſſels of the brain, and thereby diminiſhing its energy with reſpect to the heart, may occaſion a ſyncope. In many perſons, a ſmall evacuation of blood will have this effect; and in ſuch caſes there is often a clear proof of the manner in which the cauſe operates, from this circumſtance, that the effect can be prevented by laying the body in a horizontal poſture; which, by favouring the afflux of the blood by the arteries, and retarding the return of it by the veins, preſerves the neceſſary fulneſs of the veſſels of the brain.

It is farther to be remarked here, that, not only an evacuation of blood occaſions ſyncope, but that even a change in the diſtribution of the blood, whereby a larger portion of it flows into one part of the ſyſtem of blood-veſſels, and conſequently leſs into others, may occaſion a ſyncope. It is thus I explain the ſyncope that readily occurs upon the evacuation of hydropic waters, which had before filled the cavities of the abdomen or thorax. It is thus alſo I explain the ſyncope that ſometimes happens on blood-letting, but which does not happen till the ligature which had been employed is untied, and admits a larger afflux of blood into the blood-veſſels of the arm. Both theſe caſes of ſyncope ſhow that an evacuation of blood does not always occaſion the diſeaſe by any general effect on the whole ſyſtem, but often merely by taking off the requiſite fulneſs of the blood-veſſels of the brain.

1178. The operation of ſome others of the remote cauſes of ſyncope may be explained on the following principles. Whilſt the energy of the brain is, upon different occaſions, manifeſtly ſtronger or weaker, it ſeems to be with this condition, that a ſtronger exertion of it is neceſſarily followed by a weaker ſtate of the ſame. It ſeems to depend upon this law in the conſtitution of the nervous power, that the ordinary contraction of a muſcle is always alternated with a relaxation of the ſame; that, unleſs a contraction proceeds to the degree of ſpaſm, the contracted ſtate cannot be long continued: And it ſeems to depend upon the ſame cauſe that the voluntary motions, which always require an unuſual increaſe of exertion, occaſion fatigue, debility, and at length irreſiſtible ſleep.

From this law, therefore, of the nervous power, we may underſtand why a ſudden and violent exertion of the energy of the brain is ſometimes followed by ſuch a diminution of it as to occaſion a ſyncope; and it is thus I ſuppoſe that a violent fit of joy produces ſyncope, and even death. It is upon the ſame principle alſo, I ſuppoſe, that an exquiſite pain may ſometimes excite the energy of the brain more ſtrongly than can be ſupported, and is therefore followed by ſuch a diminution as muſt occaſion fainting. But the effect of this principle appears more clearly in this, that a fainting readily happens upon the ſudden remiſſion of a conſiderable pain; and thus I have ſeen a fainting occur upon the reduction of a painful diſlocation.

1179. It ſeems to be quite analogous when a ſyncope immediately happens on the finiſhing of any great and long continued effort, whether depending on the will, or upon a propenſity; and, in this way, a fainting ſometimes happens to a woman on the bearing of a child. This may be well illuſtrated, by obſerving, that, in perſons already much weakened, even a very moderate effort will ſometimes occaſion fainting.

1180. To explain the operation of ſome other cauſes of ſyncope, it may be obſerved, that, as the exertions of the energy of the brain are eſpecially under the influence of the will, ſo it is well known that thoſe modifications of the will which are named

Paſſions and Emotions, have a powerful influence on the energy of the brain in its action upon the heart, either in increaſing or diminiſhing the force of that energy. Thus, anger has the former, and fear the latter effect; and thence it may be underſtood how terror often occaſions a ſyncope ſometimes of the moſt violent kind, named Aſphyxia, and ſometimes death itſelf.

1181. As, from what I have juſt mentioned, it appears, that the emotions of deſire increaſe, and thoſe of averſion diminiſh, the energy of the brain; ſo it may be underſtood, how a ſtrong averſion, a horror, or the feeling which ariſes upon the ſight of a very diſagreeable object, may occaſion fainting. As an example of this, I have known more than one inſtance of a perſon's fainting at the ſight of a ſore in another perſon.

1182. To this head of horror and diſguſt, I refer the operation of thoſe odours which in certain perſons occaſion ſyncope. It may be ſuppoſed, that thoſe odours are endowed with a directly ſedative power, and may thereby occaſion ſyncope; but they are, many of them, with reſpect to other perſons, evidently of a contrary quality: And it appears to me, that thoſe odours occaſion ſyncope only in thoſe perſons to whom they are extremely diſagreeable.

1183. It is, however, very probable, that, among the cauſes of ſyncope, there are ſome which, analogous to all thoſe we have already mentioned, act by a directly ſedative power: And ſuch may either be diffuſed in the maſs of blood, and thereby communicated to the brain; or may be only taken into the ſtomach, which ſo readily and frequently communicates its affections to the brain.

1184. Having now enumerated, and, as I hope, explained, the moſt part of the remote cauſes of ſyncope, that either operate immediately upon the brain, or whoſe operation upon other parts of the body is communicated to the brain, it is proper to obſerve, that the moſt part of theſe cauſes operate upon certain perſons more readily and more powerfully than upon others; and this circumſtance, which may be conſidered as the prediſponent cauſe of ſyncope, deſerves to be inquired into.

It is, in the firſt place, obvious, that the operation of ſome of thoſe cauſes depends entirely upon an idioſyncraſy in the perſons upon whom they operate; which, however, I cannot pretend to explain. But, in the next place, with reſpect to the greater part of the other cauſes, their effects ſeem to depend upon a temperament which is in one degree or other in common

mon to many perſons. This temperament ſeems to conſiſt in a great degree of ſenſibility and mobility, ariſing from a ſtate of debility, ſometimes depending upon original conformation, and ſometimes produced by accidental occurrences in the courſe of life.

1185. The ſecond ſet of the remote cauſes of ſyncope (1174.), or thoſe acting directly upon the heart itſelf, are certain organic affections of the heart itſelf, or of the parts immediately connected with it, particularly the great veſſels which pour blood into, or immediately receive it from, the cavities of the heart. Thus a dilatation or aneuriſm of the heart, a polypus in its cavities, abſceſſes or ulcerations in its ſubſtance, a cloſe adherence of the pericardium to the ſurface of the heart, aneuriſms of the great veſſels near to the heart, polypus in theſe, and oſſifications in theſe or in the valves of the heart, are one or other of them conditions which, upon diſſection, have been diſcovered in thoſe perſons who had before laboured under frequent ſyncope.

1186. It is obvious, that theſe conditions are all of them, either ſuch as may, upon occaſion, diſturb the free and regular influx into, or the free egreſs of the blood from, the cavities of the heart; or ſuch as may otherwiſe diſturb its regular action, by ſometimes interrupting it, or ſometimes exciting it to more violent and convulſive action. The latter is what is named the Palpitation of the Heart, and it commonly occurs in the ſame perſons who are liable to ſyncope.

1187. It is this, as I judge, that leads us to perceive in what manner theſe organic affections of the heart and great veſſels may occaſion ſyncope: For it may be ſuppoſed, that the violent exertions made in palpitations may either give occaſion to an alternate great relaxation (1178.), or to a ſpaſmodic contraction; and in either way ſuſpend the action of the heart, and occaſion ſyncope. It ſeems to me probable, that it is a ſpaſmodic contraction of the heart that occaſions the intermiſſion of the pulſe ſo frequently accompanying palpitation and ſyncope.

1188. Though it frequently happens that palpitation and ſyncope ariſe, as we have ſaid, from the organic affections above mentioned, it is proper to obſerve that theſe diſeaſes, even when in a violent degree, do not always depend on ſuch cauſes acting directly on the heart, but are often dependent on ſome of thoſe cauſes which we have mentioned above as acting primarily on the brain.

1189. I have thus endeavoured to give the pathology of ſyncope; and of the cure I can treat very ſhortly.

The caſes of ſyncope depending on the ſecond ſet of cauſes (1174.), and fully recited in (1185.), I ſuppoſe to be generally incurable; as our art, ſo far as I know, has not yet taught us to cure any one of thoſe ſeveral cauſes of ſyncope (1185.).

The caſes of ſyncope, depending on the firſt ſet of cauſes (1174.), and whoſe operations I have endeavoured to explain in (1177. *et ſeq.*), I hold to be generally curable, either by avoiding the ſeveral occaſional cauſes there pointed out, or by correcting the prediſponent cauſes (1184.). The latter, I think, may generally be done by correcting the debility or mobility of the ſyſtem, by the means which I have already had occaſion to point out in another place *.

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* See Articles 217. &c.

CHAP.

CHAP. II.

OF

DYSPEPSIA,

OR

INDIGESTION.

1190. A WANT of appetite, a ſqueamiſhneſs, ſometimes a vomiting, ſudden and tranſient diſtenſions of the ſtomach, eructations of various kinds, heart-burn, pains in the region of the ſtomach, and a bound belly, are ſymptoms which frequently concur in the ſame perſon, and therefore may be preſumed to depend upon one and the ſame proximate cauſe. In both, views, therefore, they may be conſidered as forming one and the ſame diſeaſe, to which we have given the appellation of *Dyſpepſia*, ſet at the head of this chapter.

1191. But, as this diſeaſe is alſo frequently a ſecondary and ſympathic affection, ſo the ſymptoms above mentioned are often joined with many others; and this has given occaſion to a very confuſed and undetermined deſcription of it, under the general title of Nervous Diſeaſes, or under that of Chronic Weakneſs. It is proper, however, to diſtinguiſh them; and I apprehend the ſymptoms enumerated above are thoſe eſſential to the idiopathic affection I am now to treat of.

1192. It is indeed to be particularly obſerved, that theſe ſymptoms are often truly accompanied with a certain ſtate of mind which may be conſidered as a part of the idiopathic affection; but I ſhall take no farther notice of this ſymptom in the preſent chapter, as it will be fully and more properly conſidered in the next, under the title of Hypochondriaſis.

1193. That there is a diſtinct diſeaſe attended always with the greater part of the above ſymptoms, is rendered very probable by this, that all theſe ſeveral ſymptoms may ariſe from one and the ſame cauſe; that is, from an imbecility, loſs of tone, and weaker action in the muſcular fibres of the ſtomach: And I conclude, therefore, that this imbecility may be conſidered as the proximate cauſe of the diſeaſe I am to treat of under the name of Dyſpepſia.

1194. The imbecility of the ſtomach, and the conſequent ſymptoms (1190.), may, however, frequently depend upon ſome organic affection of the ſtomach itſelf, as tumour, ulcer, or ſchirroſity ; or upon ſome affection of other parts of the body communicated to the ſtomach, as in gout, amenorrhœa, and ſome others. In all theſe caſes, however, the dyſpeptic ſymptoms are to be conſidered as ſecondary or ſympathic affections, to be cured only by curing the primary diſeaſe. Such ſecondary and ſympathic caſes cannot, indeed, be treated of here ; but, as I preſume that the imbecility of the ſtomach may often take place without either any organic affection of this part, or any more primary affection, in any other part of the body ; ſo I ſuppoſe and expect it will appear, from the conſideration of the remote cauſes, that the dyſpepſia may be often an idiopathic affection, and that it is therefore properly taken into the ſyſtem of methodical Noſology, and becomes the ſubject of our conſideration here.

1195. There can be little doubt that, in moſt caſes, the weaker action of the muſcular fibres of the ſtomach, is the moſt frequent and chief cauſe of the ſymptoms mentioned in 1190. ; but I dare not maintain it to be the only cauſe of idiopathic dyſpepſia. There is, pretty certainly, a peculiar fluid in the ſtomach of animals, or at leaſt a peculiar quality in the fluids, that we know to be there, upon which the ſolution of the aliments taken into the ſtomach chiefly depends: And it is at the ſame time probable, that the peculiar quality of the diſſolving or digeſting fluids may be variouſly changed, or that their quantity may be, upon occaſion, diminiſhed. It is therefore ſufficiently probable, that a change in the quality or quantity of theſe fluids may produce a conſiderable difference in the phenomena of digeſtion, and particularly may give occaſion to many of the morbid appearances mentioned in 1190.

1196. This ſeems to be very well founded, and points out another proximate cauſe of dyſpepſia beſide that we have already aſſigned: But, notwithſtanding this, as the peculiar nature of the digeſtive fluid, the changes which it may undergo, or the cauſes by which it may be changed, are all matters ſo little known, that I cannot found any practical doctrine upon any ſuppoſition with reſpect to them; and as, at the ſame time, the imbecility of the ſtomach, either as cauſing the change in the digeſtive fluid, or as being induced by that change, ſeems always to be preſent, and to have a great ſhare in occaſioning the ſymptoms of indigeſtion; ſo I ſhall ſtill conſider the imbecility of the ſtomach as the proximate and almoſt ſole cauſe of dyſpepſia. And I more readily admit of this manner of proceeding; as, in my opinion, the doctrine applies very fully and clearly to the explaining the whole of the practice which experience has eſtabliſhed as the moſt ſucceſsful in this diſeaſe.

1197. Conſidering this, then, as the proximate cauſe of dyſpepſia, I proceed to mention the ſeveral remote cauſes of this diſeaſe, as they are ſuch as, on different occaſions, ſeem to produce a loſs of tone in the muſcular fibres of the ſtomach. They may, I think, be conſidered under two heads, The *firſt* is, of thoſe which act directly and immediately upon the ſtomach itſelf: The *ſecond* is, of thoſe which act upon the whole body, or particular parts of it, but in conſequence of which the ſtomach is chiefly or almoſt only affected.

1198. Of the firſt kind are,

1. Certain ſedative or narcotic ſubſtances taken into the ſtomach, ſuch as tea,

coffee, tobacco, ardent ſpirits, opium, bitters, aromatics, putrids, and aceſcents.

2. The large and frequent drinking of warm water, or of warm watery liquids.

3. Frequent ſurfeit, or immoderate repletion of the ſtomach.

4. Frequent vomiting, whether ſpontaneouſly ariſing, or excited by art.

5. Very frequent ſpitting, or rejection of ſaliva.

1199. Thoſe cauſes which act upon the whole body, or upon particular parts and functions of it, are,

1. An indolent and ſedentary life.

2. Vexation of mind, and diſorderly paſſions of any kind.

3. Intenſe ſtudy, or cloſe application to buſineſs too long continued.

4. Exceſs in venery.

5. Frequent intoxication; which partly belongs to this head, partly to the former.

6. The being much expoſed to moiſt and cold air when without exerciſe.

1200. Though the diſeaſe, as proceeding from the laſt ſet of cauſes, may be conſidered as a ſymptomatic affection only; yet, as the affection of the ſtomach is generally the firſt, always the chief, and often the only, effect which theſe cauſes produce or diſcover, I think, the affection of the ſtomach may be conſidered as the diſeaſe to be attended to in practice; and the more properly ſo, as in many caſes the general debility is only to be cured by reſtoring the tone of the ſtomach, and by remedies firſt applied to this organ.

1201. For the cure of this diſeaſe, we

form three ſeveral indications; a preſervative, a palliative, and a curative.

The *firſt* is, to avoid or remove the remote cauſes juſt now enumerated.

The *ſecond* is, to remove thoſe ſymptoms which eſpecially contribute to aggravate and continue the diſeaſe. And,

The *third* is, to reſtore the tone of the ſtomach; that is, to correct or remove the proximate cauſe of the diſeaſe.

1202. The propriety and neceſſity of the firſt indication is ſufficiently evident, as the continued application, or frequent repetition of thoſe cauſes, muſt continue the diſeaſe; may defeat the uſe of remedies; or, in ſpite of theſe, may occaſion the recurrence of the diſeaſe. It is commonly the neglect of this indication which renders this diſeaſe ſo frequently obſtinate. How the indication is to be executed, will be ſufficiently obvious from the conſideration of the ſeveral cauſes : But it is proper for the practitioner to attend to this, that the execution is often exceedingly difficult, becauſe it is not eaſy to engage men to break in upon eſtabliſhed habits, or to renounce the purſuit of pleaſure; and particularly, to perſuade men that theſe practices are truly hurtful which they have often practiſed with ſeeming impunity.

1203. The ſymptoms of this diſeaſe which eſpecially contribute to aggravate and continue it, and therefore require to be more immediately corrected or removed, are, firſt, the crudities of the ſtomach already produced by the diſeaſe, and diſcovered by a loſs of appetite, by a ſenſe of weight and uneaſineſs in the ſtomach, and particularly by the eructation of imperfectly digeſted matters.

Another ſymptom to be immediately corrected, is an unuſual quantity, or a higher degree than uſual, of acidity preſent in the ſtomach, diſcovered by various diſorders in digeſtion, and by other effects to be mentioned afterwards.

The third ſymptom aggravating the diſeaſe, and otherwiſe in itſelf urgent, is coſtiveneſs, and therefore conſtantly requiring to be relieved.

1204. The *firſt* of theſe ſymptoms is to be relieved by exciting vomiting ; and the uſe of this remedy, therefore, uſually and properly begins the cure of this diſeaſe. The vomiting may be excited by various means, more gentle or more violent. The former may anſwer the purpoſe of evacuating the contents of the ſtomach : But emetics, and vomiting, may alſo excite the ordinary action of the ſtomach ; and both, by variouſly agitating the ſyſtem, and particularly by determining to the ſurface of the body, may contribute to remove the cauſes of the diſeaſe. But theſe latter effects can only be obtained by the uſe of emetics of the more powerful kind, ſuch as the antimonial emetics eſpecially are *.

1205. The *ſecond* ſymptom to be palliated, is an exceſs of acidity, either in quantity or quality, in the contents of the ſtomach. In man there is a quantity of aceſcent aliment almoſt conſtantly taken in, and, as I think, always undergoes an acetous fermentation in the ſtomach; and it is therefore that, in the human ſtomach, and in the ſtomachs of all animals uſing vegetable food, there is always found an acid preſent. This acid, however, is generally innocent, and occaſions no diſorder, unleſs either the quantity of it is very large, or the acidity proceeds to a higher degree than uſual. But, in either of theſe caſes, the acid occaſions various diſorders, as flatulency, eructation, heartburn, gnawing pains of the ſtomach, irregular appetites and cravings, looſeneſs, griping, emaciation, and debility. To obviate or remove theſe effects aggravating and continuing the diſeaſe, it is not only neceſſary to correct the acid preſent in the ſtomach; but, eſpecially as this acid proves a ferment determining and increaſing the aceſcency of the aliments afterwards taken in, it is proper alſo, as ſoon as poſſible, to correct the diſpoſition to exceſſive acidity.

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* The formulæ and doſes of antimonial emetics have been deſcribed in a note on Article 185.

1206. The acidity preſent in the ſtomach may be corrected by the uſe of alkaline ſalts, or abſorbent earths *; or by ſuch ſub-

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* No part of the practice of phyſic requires more caution than the adminiſtering alkaline ſalts and abſorbent earths. The alkaline ſalts, by their cauſtic quality, corrode the ſtomach, and blunt its action, when taken in too large quantities; and eſpecially if, from a miſtaken diagnoſis, no acid is in the ſtomach.

Lime-water is certainly preferable to the alkaline ſalts;

ſubſtances, containing theſe, as can be decompoſed by the acid of the ſtomach. Of the

ſalts; its doſe may vary from two to four ounces twice a-day, according to the urgency of the caſe.

The abſorbent earths, as chalk, crabs eyes, &c. if they do not meet with an acid, are apt to concrete into a hard indiſſoluble maſs, by the mucus of the ſtomach.

Magneſia is doubtleſs, in many caſes, preferable to the calcareous earth: When, on account of its purgative quality, we cannot continue its uſe chalk is preferable to the teſtaceous powders, becauſe it is free from that glutinous ſubſtance with which teſtaceous powders abound, and which the more readily diſpoſes them to concrete in the ſtomach. The doſe of magneſia is from ℈i. to ʒi. twice or thrice a-day; and its purgative quality may, in many caſes, be prevented, by adding to each doſe of it ten or fifteen grains of rhubarb, and five or ſix drops of oil of aniſe-ſeed.

The Decoctum cretaceum of the Edinburgh Pharmacopœia is a good form for the exhibition of chalk. But the alkalines, the cauſtic is more effectual than the mild; and this accounts for the effects of lime-water. By employing abſorbents, we avoid the exceſs of alkali, which might ſometimes take place. The abſorbents are different, as they form a neutral more or leſs laxative; and hence the difference between magneſia alba and other abſorbents. It is to be obſerved, that alkalines and abſorbents may be employed to exceſs; as, when employed in large quantity,

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But chalk may be given with rhubarb and oil of aniſeſeeds, like magneſia. The Trochiſci e creta is a convenient form for giving the chalk, had the crabs eyes been omitted. The following antacid troches are both effectual and pleaſant:

℞. Magneſ. alb. ʒvi.
Sacch. alb. ℥iii.
Nuc. moſch. ℈ii.
M. f. trochiſci cum mucilagin. gum. tragacanth. q. s.

quantity, they may deprive the animal fluids of the acid neceſſary to their proper compoſition.

1207. The diſpoſition to acidity may be obviated by avoiding aceſcent aliments, and uſing animal food little capable of aceſcency. This, however, cannot be long continued without corrupting the ſtate of our blood; and, as vegetable food cannot be entirely avoided, the exceſs of their aceſcency may in ſome meaſure be avoided, by chooſing vegetable food the leaſt diſpoſed to a vinous fermentation, ſuch as leavened bread and well fermented liquors, and, inſtead of freſh native acids, employing vinegar.

1208. The acid ariſing from aceſcent matters, in a ſound ſtate of the ſtomach, does not proceed to any high degree, or is again ſoon involved, and made to diſappear: But this does not always happen;

and a more copious acidity, or a higher degree of it, may be produced, either from a change in the digeſtive fluids, become leſs fit to moderate fermentation, and to cover acidity, or from their not being ſupplied in due quantity. How the former may be occaſioned, we do not well underſtand; but we can readily perceive that the latter, perhaps the former alſo, may proceed from a weaker action of the muſcular fibres of the ſtomach. In certain caſes, ſedative paſſions, immediately after they ariſe, occaſion the appearance of acidity in the ſtomach which did not appear before; and the uſe of ſtimulants often corrects or obviates an acidity that would otherwiſe have appeared. From theſe conſiderations, we conclude, that the production and ſubſiſtence of acidity in the ſtomach is to be eſpecially prevented by reſtoring and exciting the proper action of it, by the ſeveral means to be mentioned hereafter.

1209. But it is alſo to be further obſerved, that, though there are certain powers in the ſtomach for preventing a too copious acidity, or a high degree of it, they are not, however, always ſufficient for preventing aceſcency, or for covering the acidity produced; and therefore, as long as vegetable ſubſtances remain in the ſtomach, their aceſcency may go on and increaſe. From hence we perceive, that a ſpecial cauſe of the exceſs of acidity may be, the too long retention of aceſcent matters in the ſtomach; whether this may be from theſe matters being of more difficult ſolution, or from the weakneſs of the ſtomach more ſlowly diſcharging its contents into the duodenum, or from ſome impediment to the free evacuation of the ſtomach by the pylorus. The latter of theſe cauſes we are well acquainted with, in the caſe of a ſcirrhous pylorus, producing commonly the higheſt degree of acidity. In all the inſtances of this ſcirrhoſity I have met with, I have found it incurable: But the firſt of theſe cauſes is to be obviated by avoiding ſuch aliments as are of difficult ſolution; and the ſecond is to be mended by the ſeveral remedies for exciting the action of the ſtomach, to be mentioned afterwards.

1210. The *third* ſymptom commonly accompanying dyſpepſia, which requires to be immediately removed, is coſtiveneſs. There is ſo much connection between the ſeveral portions of the alimentary canal with reſpect to the periſtaltic motion, that, if accelerated or retarded in any one part, the other parts of it are commonly affected in the ſame manner. Thus, as the briſker action of the ſtomach muſt accelerate the action of the inteſtines, ſo the ſlower action of the inteſtines muſt in ſome meaſure retard that of the ſtomach. It is therefore of conſequence to the proper action of the ſtomach, that the periſtaltic motion of the inteſtines determining their contents downwards, be regularly continued; and that all coſtiveneſs, or interruption of that determination, be avoided. This may be done by the various means of exciting the action of the inteſtines: But it is to be obſerved here, that, as every conſiderable evacuation of the inteſtines weakens their action, and is ready, therefore, to induce coſtiveneſs when the evacuation is over; ſo thoſe purgatives which produce a large evacuation are unfit for correcting the habit of coſtiveneſs. This, therefore, ſhould be attempted by medicines which do no more than ſolicit the inteſtines to a more ready diſcharge of their preſent contents, without either hurrying their action, or increaſing the excretions made into their cavity; either of which effects might produce a purging. There are, I think, certain medicines peculiarly proper on this occaſion, as they ſeem to ſtimulate eſpecially the great guts, and to act little on the higher parts of the inteſtinal canal *.

1211. We have thus mentioned the ſeveral means of executing our ſecond indication; and I proceed to the *third*, which is, as we have ſaid, the proper curative; and it is to reſtore the tone of the ſtomach, the loſs of which we conſider as the proximate cauſe of the diſeaſe, or at leaſt as the chief part of it. The means of ſatisfying this indication we refer to two heads. One is, of thoſe means which operate directly and chiefly on the ſtomach itſelf; and the other is, of thoſe means which, operating upon the whole ſyſtem, have their tonic effects thereby communicated to the ſtomach.

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* Ten or fifteen grains of Pil. Ruf. anſwer this purpoſe ſufficiently well. It is to be regretted that the Author did not mention thoſe *certain medicines* to which he alludes.

1212. The medicines which operate directly on the ſtomach are either ſtimulants or tonics.

The ſtimulants are ſaline or aromatic.

The ſaline are acids or neutrals.

Acids of all kinds ſeem to have the power of ſtimulating the ſtomach, and therefore often increaſe appetite: But the native acids, as liable to fermentation, may otherwiſe do harm, and are therefore of ambiguous uſe. The acids, therefore, chiefly and ſucceſsfully employed are the vitriolic*, muriatic†, and the diſtilled acid of vegetables,

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* The doſe of the vitriolic acid ought not to exceed ten drops, and it ſhould be well diluted with water.

† The Tinctura Martis of the Edinburgh College powerfully ſtimulates the ſtomach, and acts at the ſame time as a tonic; its doſe is from ten to twenty drops thrice a-day, in a ſufficient quantity of any proper vehicle, and it is a very agreeable medicine.

as it is found in tar-water, which are all of them antizymics *.

The neutral ſalts anſwering this intention are eſpecially thoſe which have the muriatic acid in their compoſition, though it is preſumed that neutrals of all kinds have more or leſs of the ſame virtue †.

1213 The aromatics, and perhaps ſome other acrids, certainly ſtimulate the ſtomach, as they obviate the aceſcency and flatulency of vegetable food: But their ſtimulus is tranſitory; and, if frequently repeated,

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* i. e. Reſiſt fermentation.

† The Sal digeſtivus, i. e. the muriatic acid ſaturated with vegetable fixed alkali, was thought to be preferable to common ſalt in promoting digeſtion. Hence its old name of Sal digeſtivus. Its ſuperiority over common ſalt is however doubtful.

peated, and taken in large quantities, they may hurt the tone of the ſtomach *.

1214. The tonics employed to ſtrengthen the ſtomach are bitters, bitters and aſtringents combined, and chalybeates.

Bitters are undoubtedly tonic medicines, both with reſpect to the ſtomach and the whole ſyſtem: But their long-continued uſe has been found to deſtroy the tone of the ſtomach and of the whole ſyſtem; and, whether this is from the mere repetition of their tonic operation, or from ſome narco-

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* This caution againſt the too free uſe of aromatics ought to be peculiarly attended to by the young practitioner. The ſpeedy relief which they procure tempts the patient to have frequent recourſe to them, which, as the Author juſtly obſerves, may materially hurt the tone of the ſtomach, and conſequently increaſe the diſeaſe which they were intended to remove.

tic power joined with the tonic in them, I am uncertain.

1215. Bitters and aſtringents combined are probably more effectual tonics than either of them taken ſingly; and we ſuppoſe ſuch a combination to take place in the Peruvian bark; which therefore proves a powerful tonic, both with reſpect to the ſtomach and to the whole ſyſtem. But I have ſome ground to ſuſpect that the long-continued uſe of this bark may, like bitters, deſtroy both the tone of the ſtomach and of the whole ſyſtem *.

1216. Chalybeates may be employed as tonics in various forms†, and in conſiderable

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* Forms of theſe tonics may be ſeen in the preceding notes on Articles 982. 983. 993.

† See the notes on Articles 982. 983. 993.

able quantities, with ſafety. They have been often employed in the form of mineral waters, and ſeemingly with ſucceſs: But, whether this is owing to the chalybeate in the compoſition of theſe waters, or to ſome other circumſtances attending their uſe, I dare not poſitively determine; but the latter opinion ſeems to me the more probable.

1217. The remedies which ſtrengthen the ſtomach, by being applied to the whole body, are, exerciſe, and the application of cold.

In theſe caſes, the Tinctura Martis, mentioned in the note on Article 1212. is as proper a form of chalybeates as any we can uſe. Its doſe is from ten to twenty drops in any proper vehicle. A glaſs of cold ſpring water, acidulated with a few drops of this tincture, is agreeable and refreſhing, and may be uſed as the patient's common drink; its agreeableneſs may be conſiderably increaſed by adding to each half-pint glaſs a table-ſpoonful of ſimple cinnamon water.

As exerciſe ſtrengthens the whole body, it muſt alſo ſtrengthen the ſtomach; but it does this alſo in a particular manner, by promoting perſpiration, and exciting the action of the veſſels on the ſurface of the body, which have a particular conſent with the muſcular fibres of the ſtomach. This particularly explains why the exerciſes of geſtation, though not the moſt powerful in ſtrengthening the whole ſyſtem, are, however, very powerful in ſtrengthening the ſtomach; of which we have a remarkable proof in the effects of ſailing. In ſtrengthening the general ſyſtem, as fatigue muſt be avoided, ſo bodily exerciſe is of ambiguous uſe; and perhaps it is thereby that riding on horſeback has been ſo often found to be one of the moſt powerful means of ſtrengthening the ſtomach, and thereby of curing dyſpepſia.

1218. The other general remedy of dyſpepſia is the application of cold; which may be in two ways; that is, either by the application of cold air, or of cold water. It is probable, that, in the atmoſphere conſtantly ſurrounding our bodies, a certain degree of cold, conſiderably leſs than the temperature of our bodies themſelves, is neceſſary to the health of the human body. Such a degree of cold ſeems to ſtrengthen the veſſels on the ſurface of the body, and therefore the muſcular fibres of the ſtomach. But, further, it is well known that, if the body is in exerciſe ſufficient to ſupport ſuch a determination to the ſurface as to prevent the cold from producing an entire conſtriction of the pores, a certain degree of cold in the atmoſphere, with ſuch exerciſe, will render the perſpiration more conſiderable. From the ſharp appetite that, in ſuch circumſtances, is commonly produced, we can have no doubt, that, by the application of ſuch cold, the tone of the ſtomach is conſiderably ſtrengthened. Cold air, therefore, applied with exerciſe, is a moſt powerful tonic with reſpect to the ſtomach: And this explains why, for that purpoſe, no exerciſes within doors, or in cloſe carriages, are ſo uſeful as thoſe in the open air.

1219 From the ſame reaſoning, we can perceive that the application of cold water, or cold bathing, while it is a tonic with reſpect to the ſyſtem in general, and eſpecially as exciting the action of the extreme veſſels, muſt in both reſpects be a powerful means of ſtrengthening the tone of the ſtomach.

1220. Theſe are the remedies to be employed towards a radical cure of idiopathic dyſpepſia; and it might be, perhaps, expected here, that I ſhould treat alſo of the various caſes of the ſympathic diſeaſe. But it will be obvious that this cannot be properly done without treating of all the diſeaſes of which dyſpepſia is a ſymptom, which cannot be proper in this place. It has been partly done already, and will be further treated of in the courſe of this work In the mean time, it may be proper to obſerve, that there is not ſo much occaſion for diſtinguiſhing between the idiopathic and ſympathic dyſpepſia, as there is in many other caſes of idiopathic and ſympathic diſeaſes. For, as the ſympathic caſes of dyſpepſia are owing to a loſs of tone in ſome other part of the ſyſtem, which is from thence communicated to the ſtomach; ſo the tone of the ſtomach reſtored may be communicated to the part primarily affected; and therefore the remedies of the idiopathic may be often uſefully employed, and are often the remedies chiefly employed in ſympathic dyſpepſia.

1221. Another part of our buſineſs here might be to ſay, how ſome other of the urgent ſymptoms, beſides thoſe abovementioned, are to be palliated. On this ſubject, I think it is enough to ſay, that the ſymptoms chiefly requiring to be immediately relieved, are flatulency, heartburn, other kinds of pain in the region of the ſtomach, and vomiting.

The dyſpeptic are ready to ſuppoſe that the whole of their diſeaſe conſiſts in a flatulency. In this it will be obvious that they are miſtaken ; but, although the flatulency is not to be entirely cured, but by mending the imbecility of the ſtomach by the means above mentioned ; yet the flatulent diſtention of the ſtomach may be relieved by carminatives, as they are called, or medicines that produce a diſcharge of wind from the ſtomach ; ſuch are the various antiſpaſmodics, of which the moſt effectual is the vitriolic æther.

The heartburn may be relieved by abſorbents,

abſorbents [*], antiſpaſmodics [†], or demulcents [‡].

The other pains of the ſtomach may be ſometimes relieved by carminatives [§], but moſt certainly by opiates.

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[*] The abſorbents have been deſcribed above, ſee note on Article 1206.

[†] It may be doubtful whether antiſpaſmodics are effectual in removing heartburn. Opium undoubtedly often gives relief in doſes of twenty or thirty drops of laudanum.

[‡] Extract of liquorice is as good a demulcent in theſe caſes as any in the liſt of the Materia Medica. Sucking a little piece of it, and drinking a cup or two of weak lintſeed tea after it, ſeldom fail of giving relief.

[§] Carminatives ſuitable in theſe caſes are the eſſential oils of the ſeeds of ſome aromatic umbiliferous plants, Vomiting is to be cured moſt effectually by opiates thrown by injection into the anus.

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plants, as Ol. Aniſi, the doſe of which is fifteen or twenty drops on a piece of ſugar, though common practice ſeldom goes half that length. The Oleum Carvi is another excellent carminative, but it is very hot, and its doſe muſt never exceed five drops; two drops are a moderate doſe. The Oleum Menthæ is another good carminative; its doſe is two or three drops on a piece of ſugar.

Two grains of the Extract of Opium, or forty drops of the Laudanum, are uſually given in half a cupful of lintſeed tea. The doſe may be increaſed to 100 drops of laudanum, in the ſame quantity of vehicle, eſpecially if the pain of the ſtomach be accompanied with vomitings.

CHAP. III.

OF

HYPOCHONDRIASIS,

OR THE

HYPOCHONDRIAC AFFECTION,

COMMONLY CALLED

VAPOURS OR LOW SPIRITS.

1222. IN certain perſons there is a ſtate of mind diſtinguiſhed by a concurrence of the following circumſtances: A languor, liſtleſſneſs, or want of reſolution

tion and activity with reſpect to all undertakings; a diſpoſition to ſerioufneſs, ſadneſs, and timidity; as to all future events, an apprehenſion of the worſt or moſt unhappy ſtate of them; and therefore, often upon ſlight grounds, an apprehenſion of great evil. Such perſons are particularly attentive to the ſtate of their own health, to every the ſmalleſt change of feeling in their bodies; and from any unuſual feeling, perhaps of the ſlighteſt kind, they apprehend great danger, and even death itſelf. In reſpect to all theſe feelings and apprehenſions, there is commonly the moſt obſtinate belief and perſuaſion.

1223. This ſtate of mind is the Hypochondriaſis of medical writers. See Linnæi Genera Morborum, Gen. 76. et Sagari Syſtema Symptomaticum, Claſs XIII. Gen. 5. The ſame ſtate of mind is what has been commonly called *Vapours* and *Low Spirits*. Though the term *Vapours* may be founded on a falſe theory, and therefore improper: I beg leave, for a purpoſe that will immediately appear, to employ it for a little here.

1224. Vapours, then, or the ſtate of mind deſcribed above, is, like every other ſtate of mind connected with a certain ſtate of the body, which muſt be inquired into in order to its being treated as a diſeaſe by the art of phyſic.

1225. This ſtate of the body, however, is not very eaſily aſcertained: For we can perceive, that, on different occaſions, it is very different; vapours being combined ſometimes with dyſpepſia, ſometimes with hyſteria, and ſometimes with melancholia, which are diſeaſes ſeemingly depending on very different ſtates of the body.

1226. The combination of vapours with dyſpepſia is very frequent, and in ſeemingly

ingly very different circumſtances. It is, eſpecially, theſe different circumſtances that I would wiſh to aſcertain; and I remark that they are manifeſtly of two different kinds. Firſt, as the diſeaſe occurs in young perſons of both ſexes, in perſons of a ſanguine temperament, and of a lax and flaccid habit. Secondly, as it occurs in elderly perſons of both ſexes, of a melancholic temperament, and of a firm and rigid habit.

1227. Theſe two different caſes of the combination of vapours and dyſpepſia, I conſider as two diſtinct diſeaſes, to be diſtinguiſhed chiefly by the temperament prevailing in the perſons affected.

As the dyſpepſia of ſanguine temperaments is often without vapours; and, as the vapours, when joined with dyſpepſia in ſuch temperaments, may be conſidered as, perhaps, always a ſymptom of the affection of the ſtomach; ſo to this combination of dyſpepſia and vapours, I would ſtill apply the appellation of *Dyſpepſia*, and conſider it as ſtrictly the diſeaſe treated of in the preceding chapter.

But the combination of dyſpepſia and vapours in melancholic temperaments, as the vapours or the turn of mind peculiar to the temperament, nearly that deſcribed above in (1222.), are eſſential circumſtances of the diſeaſe; and, as this turn of mind is often with few, or only ſlight ſymptoms of dyſpepſia; and, even though the latter be attending, as they ſeem to be rather the effects of the general temperament, than of any primary or topical affection of the ſtomach; I conſider this combination as a very different diſeaſe from the former, and would apply to it ſtrictly the appellation of *Hypochondriaſis*.

1228. Having thus pointed out a diſtinction between Dyſpepſia and Hypochondriaſis,

chondriaſis, I ſhall now, uſing theſe terms in the ſtrict ſenſe above-mentioned, make ſome obſervations which may, I think, illuſtrate the ſubject, and more clearly and fully eſtabliſh the diſtinction propoſed.

1229. The dyſpepſia often appears early in life, and is frequently much mended as life advances: But the hypochondriaſis ſeldom appears early in life, and more uſually in more advanced years only; and more certainly ſtill, when it has once taken place, it goes on increaſing as life advances to old age.

This ſeems to be particularly well illuſtrated, by our obſerving the changes in the ſtate of the mind which uſually take place in the courſe of life. In youth, the mind is chearful, active, raſh, and moveable: But, as life advances, the mind by degrees becomes more ſerious, ſlow, cautious, and ſteady; till at length, in old age, the gloomy, timid, diſtruſtful, and obſtinate ſtate of melancholic temperaments, is more exquiſitely formed. In producing theſe changes, it is true, that moral cauſes have a ſhare; but it is at the ſame time obvious, that the temperament of the body determines the operation of theſe moral cauſes, ſooner or later, and in a greater or leſſer degree, to have their effects. The ſanguine temperament retains longer the character of youth, while the melancholic temperament brings on more early the manners of old age.

1230. Upon the whole, it appears, that the ſtate of the mind which attends, and eſpecially diſtinguiſhes hypochondriaſis, is the effect of that ſame rigidity of the ſolids, torpor of the nervous power, and peculiar balance between the arterial and venous ſyſtems which occur in advanced life, and which at all times take place more or leſs in melancholic temperaments. If therefore there be alſo ſomewhat of a like ſtate of mind attending the dyſpepſia which occurs early in life in ſanguine temperaments and lax habits, it muſt depend upon a different ſtate of the body, and probably upon a weak and moveable ſtate of the nervous power.

1231. Agreeable to all this in dyſpepſia, there is more of ſpaſmodic affection, and the affection of the mind (1222.) is often abſent, and, when preſent, is perhaps always of a ſlighter kind; while in hypochondriaſis the affection of the mind is more conſtant, and the ſymptoms of dyſpepſia, or the affections of the ſtomach, are often abſent, or, when preſent, are in a ſlighter degree.

I believe the affection of the mind is commonly different in the two diſeaſes. In dyſpepſia, it is often languor and timidity only, eaſily diſpelled; while, in hypochondriaſis, it is generally the gloomy and rivetted apprehenſion of evil.

The two diſeaſes are alſo diſtinguiſhed by ſome other circumſtances. Dyſpepſia, as I have ſaid, is often a ſymptomatic affection; while hypochondriaſis is, perhaps, always a primary and idiopathic diſeaſe.

As debility may be induced by many different cauſes, dyſpepſia is a frequent diſeaſe; while hypochondriaſis, depending upon a peculiar temperament, is more rare.

1232. Having thus endeavoured to diſtinguiſh the two diſeaſes, I ſuppoſe the peculiar nature and proximate cauſe of *hypochondriaſis* will be underſtood; and I proceed, therefore, to treat of its cure.

So far as the affections of the body, and particularly of the ſtomach, are the ſame here as in the caſe of *dyſpepſia*, the method of cure might be ſuppoſed to be alſo the ſame; and accordingly the practice has been carried on with little diſtinction: But I am perſuaded that a diſtinction is often neceſſary.

1233. There may be a foundation here for the ſame preſervative indication as firſt laid down in the cure of *dyſpepſia* (1202.); but I cannot treat this ſubject ſo clearly or fully as I could wiſh, becauſe I have not yet had ſo much opportunity of obſervation as I think neceſſary to aſcertain the remote cauſes; and I can hardly make uſe of the obſervations of others, who have ſeldom or never diſtinguiſhed between the two diſeaſes. What, indeed, has been ſaid with reſpect to the remote cauſes of *melancholia*, will often apply to the *hypochondriaſis*, which I now treat of; but the ſubject of the former has been ſo much involved in a doubtful theory, that I find it difficult to ſelect the facts that might properly and ſtrictly apply to the latter. I delay this ſubject, therefore, till another occaſion;

but, in the mean time, truſt that what I have ſaid regarding the nature of the diſeaſe, and ſome remarks I ſhall have occaſion to offer in conſidering the method of cure, may in ſome meaſure ſupply my deficiency on this ſubject of the remote cauſes.

1234. The *ſecond* indication laid down in the cure of dyſpepſia (1201) has properly a place here; but it is ſtill to be executed with ſome diſtinction.

1235. An anorexia, and accumulation of crudities in the ſtomach, does not ſo commonly occur in the hypochondriaſis as in dyſpepſia; and therefore vomiting (1204.) is not ſo often neceſſary in the former as in the latter.

1236. The ſymptom of exceſs of acidity, from the ſlow evacuation of the ſtomach in melancholic temperaments, often ariſes to a very high degree in hypochondriaſis; and therefore, for the ſame reaſon as in (1205.), it is to be obviated and corrected with the utmoſt care. It is upon this account that the ſeveral antacids, and the other means of obviating acidity, are to be employed in hypochondriaſis, and with the ſame attentions and conſiderations as in (1206. and following); with this reflection, however, that the exciting the action of the ſtomach there mentioned is to be a little differently underſtood, as ſhall be hereafter explained.

1237. As coſtiveneſs, and that commonly to a conſiderable degree, is a very conſtant attendant of hypochondriaſis, ſo it is equally hurtful as in dyſpepſia. It may be remedied by the ſame means in the former as in the latter, and they are to be employed with the ſame reſtrictions as in (1210.).

1238. It is eſpecially with reſpect to the *third* indication laid down in the cure of dyſpepſia (1201.) that there is a difference of practice to be obſerved in the cure of hypochondriaſis; and that often one directly oppoſite to that in the caſe of dyſpepſia is to be followed.

1239. In dyſpepſia, the chief remedies are the tonic medicines, which to me ſeem neither neceſſary nor ſafe in hypochondriaſis; for in this there is not a loſs of tone, but a want of activity that is to be remedied.

Chalybeate mineral waters have commonly been employed in hypochondriaſis, and ſeemingly with ſucceſs. But this is probably to be imputed to the amuſement and exerciſe uſually accompanying the uſe of theſe waters, rather than to the tonic power of the ſmall quantity of iron which they contain. Perhaps the elementary water,

ter, by favouring the excretions, may have a ſhare in relieving the diſeaſe.

1240. Cold bathing is often highly uſeful to the dyſpeptic, and, as a general ſtimulant, may ſometimes ſeem uſeful to the hypochondriac; but it is not commonly ſo to the latter: While, on the other hand, warm bathing, hurtful to the dyſpeptic, is often extremely uſeful to the hypochondriac.

1241. Another inſtance of a contrary practice neceſſary in the two diſeaſes, and illuſtrating their reſpective natures, is, that the drinking tea and coffee is always hurtful to the dyſpeptic, but is commonly extremely uſeful to the hypochondriac.

1242. Exerciſe, as it ſtrengthens the ſyſtem, and thereby the ſtomach, and more eſpecially as, by increaſing the perſpiration, it excites the action of the ſtomach, it proves one of the moſt uſeful remedies in dyſpepſia; and further, as, by increaſing the perſpiration, it excites the activity of the ſtomach, it likewiſe proves an uſeful remedy in the hypochondriaſis. However, in the latter caſe, as I ſhall explain preſently, it is ſtill a more uſeful remedy by its operation upon the mind than by that upon the body.

1243. It is now proper that we proceed to conſider the moſt important article of our practice in this diſeaſe, and which is, to conſider the treatment of the mind; an affection of which ſometimes attends dyſpepſia, but is always the chief circumſtance in hypochondriaſis. What I am to ſuggeſt here will apply to both diſeaſes; but it is the hypochondriaſis that I am to keep moſt conſtantly in view.

1244. The management of the mind in hypochondriacs is often nice and difficult.

The firm perſuaſion that generally prevails in ſuch patients, does not allow their feelings to be treated as imaginary, nor their apprehenſion of danger to be conſidered as groundleſs, though the phyſician may be perſuaded that it is the caſe in both reſpects. Such patients, therefore, are not to be treated either by raillery or by reaſoning.

It is ſaid to be the manner of hypochondriacs to change often their phyſician; and indeed they often do it conſiſtantly: For a phyſician who does not admit the reality of the diſeaſe, cannot be ſuppoſed to take much pains to cure it, or to avert the danger of which he entertains no apprehenſion.

If, in any caſe, the pious fraud of a placebo be allowable, it ſeems to be in treating hypochondriacs; who, anxious for relief, are fond of medicines, and, though often diſappointed, will ſtill take every new drug that can be propoſed to them.

1245. As it is the nature of man to indulge every preſent emotion, ſo the hypochondriac cheriſhes his fears; and, attentive to every feeling, finds in trifles light as air a ſtrong confirmation of his apprehenſions. His cure, therefore, depends eſpecially upon the interruption of his attention, or upon its being diverted to other objects than his own feelings.

1246. Whatever averſion to application of any kind may appear in hypochondriacs, there is nothing more pernicious to them than abſolute idleneſs, or a vacancy from all earneſt purſuit. It is owing to wealth admitting of indolence, and leading to the purſuit of tranſitory and unſatisfying amuſements, or to that of exhauſting pleaſures only, that the preſent times exhibit to us ſo many inſtances of hypochondriaciſm.

The occupations of buſineſs ſuitable to their circumſtances and ſituation in life, if neither attended with emotion, anxiety, nor fatigue, are always to be admitted, and perſiſted in by hypochondriacs. But occupations upon which a man's fortune depends, and which are always, therefore, objects of anxiety to melancholic men; and more particularly where ſuch occupations are expoſed to accidental interruptions, diſappointments, and failures, it is from theſe that the hypochondriac is certainly to be withdrawn.

1247. The hypochondriac, who is not neceſſarily, by circumſtance or habits, engaged in buſineſs, is to be drawn from his attention to his own feelings by ſome amuſement.

The various kinds of ſport and hunting, as purſued with ſome ardour, and attended with exerciſe, if not too violent, are amongſt the moſt uſeful.

All thoſe amuſements which are in the open air, joined with moderate exerciſe, and requiring ſome dexterity, are generally of uſe.

Within doors, company which engages attention, which is willingly yielded to, and is at the ſame time of a chearful kind, will be always found of great ſervice.

Play, in which ſome ſkill is required, and where the ſtake is not an object of much anxiety, if not too long protracted, may often be admitted.

In dyſpeptics, however, gaming, liable to ſudden and conſiderable emotions, is dangerous; and the long continuance of it, with night-watching, is violently debilitating. But, in melancholics, who commonly excel in ſkill, and are leſs ſuſceptible of violent emotions, it is more admiſſible, and is often the only amuſement that can engage them.

Muſic, to a nice ear, is a hazardous amuſement, as long attention to it is very fatiguing.

1248. It frequently happens, that amuſements of every kind are rejected by hypochondriacs; and, in that caſe, mechanical means of interrupting thought are the remedies to be ſought for.

Such is to be found in briſk exerciſe, which requires ſome attention in the conduct of it.

Walking is ſeldom of this kind; though, as gratifying to the reſtleſſneſs of hypochondriacs, it has ſometimes been found uſeful.

The required interruption of thought is

beſt obtained by riding on horſeback, or in driving a carriage of any kind.

The exerciſe of ſailing, except it be in an open boat, engaging ſome attention, does very little ſervice.

Exerciſe in an eaſy carriage, in the direction of which the traveller takes no part, unleſs it be upon rough roads, or driven pretty quickly, and with long continuance, is of little advantage.

1249. Whatever exerciſe may be employed, it will be moſt effectual when employed in the purſuit of a journey; firſt, becauſe it withdraws a perſon from many objects of uneaſineſs and care which might preſent themſelves at home; ſecondly, as it engages in more conſtant exerciſe, and in a greater degree of it than is commonly taken in airings about home; and, laſtly, as it is conſtantly preſenting new objects which call forth a perſon's attention.

1250. In our ſyſtem of Noſology we have, next to Hypochondriaſis, placed the Chloroſis, becauſe I once thought it might be conſidered as a genus, comprehending, beſides the Chloroſis of Amenorrhœa, ſome ſpecies of Cachexy: But, as I cannot find this to be well founded, and cannot diſtinctly point out any ſuch diſeaſe, I now omit conſidering Chloroſis as a genus here; and, as a ſymptom of Amenorrhœa, I have endeavoured before to explain it under that title.

BOOK III.

OF

SPASMODIC AFFECTIONS, WITHOUT FEVER.

1251. UNDER this title I am to comprehend all the diſeaſes which conſiſt in *motu abnormi;* that is, in a preternatural ſtate of the contraction and motion of the muſcular or moving fibres in any part of the body.

1252. It will hence appear why, under this title, I have comprehended many more diſeaſes than Sauvages and Sagar have comprehended under the title of Spaſmi, or that Linnæus has done under the title of Motorii. But I expect it will be obvious, that, upon this occaſion, it would not be proper to confine our view to the affections of voluntary motion only; and, if thoſe Noſologiſts have introduced into the claſs of Spaſmi, Palpitatio and Hyſteria, it will be with equal propriety that Aſthma, Colica, and many other diſeaſes, are admitted.

1253. It has been hitherto the method of our Noſologiſts to divide the Spaſmi into the two orders of Tonici and Clonici, Spaſtici and Agitatorii; or, as many at preſent uſe the terms, into Spaſms ſtrictly ſo called, and Convulſions. I find, however, that many, and indeed moſt of the diſeaſes to be conſidered under our title of Spaſmodic affections, in reſpect of Tonic or Clonic contractions, are of a mixed kind: And, therefore, I cannot follow the uſual general diviſion; but have attempted another, by arranging the ſeveral Spaſmodic diſeaſes according as they affect the ſeveral functions, Animal, Vital, or Natural.

SECT. I.

OF THE

SPASMODIC AFFECTIONS

OF THE

ANIMAL FUNCTIONS.

1254. Agreeable to the language of the ancients, the whole of the diſeaſes to be treated of in this ſection might be termed *Spaſmi*; and many of the moderns continue to apply the term in the ſame manner: But I think it convenient to diſtinguiſh the terms of *Spaſm* and *Convulſion*, by applying the former, ſtrictly to what has been called the *Tonic*; and the latter, to what has been called the *Clonic* Spaſm. There is certainly a foundation for the uſe of thoſe different terms, as there is a remarkable difference in the ſtate of the contraction of moving fibres upon different occaſions. This I have indeed pointed out before in my treatiſe of Phyſiology, but muſt alſo repeat it here.

1255. In the exerciſe of the ſeveral functions of the animal œconomy, the contractions of the moving fibres are excited by the will, or by certain other cauſes ſpecially appointed by nature for exciting thoſe contractions; and theſe other cauſes I name the *natural cauſes* In a ſtate of health, the moving fibres are contracted by the power of the will, and by the *natural cauſes* only. At the ſame time, the contractions produced are, in force and velocity, regulated by the will, or by the circumſtances of the natural cauſes; and the contractions, whether produced by the one or the other, are always ſoon ſucceeded by a ſtate of relaxation, and are not repeated but when the power of the will or of the natural cauſes is again applied.

1256. Such are the conditions of the action of the moving fibres in a ſtate of health; but, in a morbid ſtate, the contractions of the muſcles and moving fibres ordinarily depending upon the will are excited without the concurrence of the will, or contrary to what the will intends; and, in the other functions, they are excited by the action of unuſual and unnatural cauſes. In both caſes, the contractions produced may be in two different ſtates. The one is, when the contractions are to a more violent degree than is uſual in health, and are neither ſucceeded by a ſpontaneous relaxation, nor even readily yield to an extenſion either from the action of antagoniſt muſcles, or from other extending powers applied. This ſtate of contractions is what has been called a *Tonic Spaſm*, and is what I ſhall name ſimply and ſtrictly a *Spaſm*. The other morbid ſtate of contraction is, when they are ſucceeded by a relaxation, but are immediately again repeated without the concurrence of the will, or of the repetition of natural cauſes, and are at the ſame time commonly, with reſpect to velocity and force, more violent than in a healthy ſtate. This ſtate of morbid contraction is what has been named a *Clonic Spaſm* and what I ſhall name ſimply and ſtrictly a *Convulſion*.

In this ſection I ſhall follow nearly the uſual diviſion of the ſpaſmodic diſeaſes into thoſe conſiſting in Spaſm, and thoſe conſiſting in Convulſion ; but it may not, perhaps, be in my power to follow ſuch diviſion exactly.

CHAP. I.

OF

TETANUS.

1257. BOTH Noſologiſts and Practical Writers have diſtinguiſhed Tetanic complaints into the ſeveral ſpecies of Tetanus, Opiſthotonos, and Emproſthotonos; and I have in my Noſology put the Triſmus, or Locked Jaw, as a genus diſtinct from the Tetanus. All this, however,

ver, I now judge to be improper ; and am of opinion that all the ſeveral terms mentioned denote, and are applicable only to, different degrees of one and the ſame diſeaſe ; the hiſtory and cure of which I ſhall endeavour to deliver in this chapter.

1258. Tetanic complaints may, from certain cauſes, occur in every climate that we are acquainted with ; but they occur moſt frequently in the warmeſt climates, and moſt commonly in the warmeſt ſeaſons of ſuch climates. Theſe complaints affect all ages, ſexes, temperaments, and complexions. The cauſes from whence they commonly proceed, are cold and moiſture applied to the body while it is very warm, and eſpecially the ſudden viciſſitudes of heat and cold. Or, the diſeaſe is produced by punctures, lacerations, or other leſions of nerves in any part of the body. There are, probably, ſome other cauſes of this diſeaſe ; but they are neither diſtinctly known, nor well aſcertained. Though the cauſes mentioned do, upon occaſion, affect all ſorts of perſons, they ſeem, however, to attack perſons of middle age more frequently than the older or younger, the male ſex more frequently than the female, and the robuſt and vigorous more frequently than the weaker.

1259. If the diſeaſe proceed from cold, it commonly comes on in a few days after the application of ſuch cold; but, if it ariſe from a puncture or other leſion of a nerve, the diſeaſe does not commonly come on for many days after the leſion has happened, very often when there is neither pain nor uneaſineſs remaining in the wounded or hurt part, and very frequently when the wound has been entirely healed up.

1260. The diſeaſe ſometimes comes on ſuddenly to a violent degree, but more generally it approaches by ſlow degrees to its violent ſtate. In this caſe it comes on with a ſenſe of ſtiffneſs in the back part of the neck, which, gradually increaſing, renders the motion of the head difficult and painful. As the rigidity of the neck comes on and increaſes, there is commonly at the ſame time a ſenſe of uneaſineſs felt about the root of the tongue; which, by degrees, becomes a difficulty of ſwallowing, and at length an entire interruption of it. While the rigidity of the neck goes on increaſing, there ariſes a pain, often violent, at the lower end of the ſternum, and from thence ſhooting into the back. When this pain ariſes, all the muſcles of the neck, and particularly thoſe of the back part of it, are immediately affected with ſpaſm, pulling the head ſtrongly backwards. At the ſame time, the muſcles that pull up the lower jaw, which, upon the firſt approaches of the diſeaſe, were affected with ſome ſpaſtic rigidity, are now generally affected with more violent ſpaſm, and ſet the teeth ſo cloſely together, that they do not admit of the ſmalleſt opening.

This is what has been named the *Locked Jaw*, and is often the principal part of the diſeaſe. When the diſeaſe has advanced thus far, the pain at the bottom of the ſternum returns very frequently, and with it the ſpaſms of the hind-neck and lower jaw are renewed with violence and much pain. As the diſeaſe thus proceeds, a greater number of muſcles come to be affected with ſpaſms. After thoſe of the neck, thoſe along the whole of the ſpine become affected, bending the trunk of the body ſtrongly backwards; and this is what has been named the *Opiſthotonos*.

In the lower extremities, both the flexor and extenſor muſcles are commonly at the ſame time affected, and keep the limbs rigidly extended. Though the extenſors of the head and back are uſually the moſt ſtrongly affected, yet the flexors, or thoſe muſcles of the neck that pull the head forward, and the muſcles that ſhould pull down the lower jaw, are often at the ſame time ſtrongly affected with ſpaſm. During the whole of the diſeaſe, the abdominal muſcles are violently affected with ſpaſm, ſo that the belly is ſtrongly retracted, and feels hard as a piece of board.

At length the flexors of the head and trunk become ſo ſtrongly affected as to balance the extenſors, and to keep the head and trunk ſtraight, and rigidly extended, incapable of being moved in any way; and it is to this ſtate the term of *Tetanus* has been ſtrictly applied. At the ſame time, the arms, little affected before, are now rigidly extended; the whole of the muſcles belonging to them being affected with ſpaſms, except thoſe that move the fingers, which often to the laſt retain ſome mobility. The tongue alſo long retains its mobility;

bility; but at length it alſo becomes affected with ſpaſms, which, attacking certain of its muſcles only, often thruſts it violently out between the teeth.

At the height of the diſeaſe, every organ of voluntary motion ſeems to be affected; and, amongſt the reſt, the muſcles of the face. The forehead is drawn up into furrows; the eyes, ſometimes diſtorted, are commonly rigid, and immoveable in their ſockets; the noſe is drawn up, and the cheeks are drawn backwards towards the ears, ſo that the whole countenance expreſſes the moſt violent grinning. Under theſe univerſal ſpaſms, a violent convulſion commonly comes on, and puts an end to life.

1261. Theſe ſpaſms are every where attended with moſt violent pains. The utmoſt violence of ſpaſm is, however, not conſtant; but, after ſubſiſting for a minute or two, the muſcles admit of ſome remiſſion of their contraction, although of no ſuch relaxation as can allow the action of their antagoniſts. This remiſſion of contraction gives alſo ſome remiſſion of pain; but neither is of long duration. From time to time, the violent contractions and pains are renewed ſometimes every ten or fifteen minutes, and that often without any evident exciting cauſe. But ſuch exciting cauſes frequently occur; for almoſt every attempt to motion, as attempting a change of poſture, endeavouring to ſwallow, and even to ſpeak, ſometimes gives occaſion to a renewal of the ſpaſms over the whole body.

1262. The attacks of this diſeaſe are ſeldom attended with any fever. When the ſpaſms are general and violent, the pulſe is contracted, hurried, and irregular; and the reſpiration is affected in like manner: But, during the remiſſion, both the pulſe and reſpiration uſually return to their natural ſtate. The heat of the body is commonly not increaſed; frequently the face is pale, with a cold ſweat upon it; and very often the extremities are cold, with a cold ſweat over the whole body. When, however, the ſpaſms are frequent and violent, the pulſe is ſometimes more full and frequent than natural; the face is fluſhed, and a warm ſweat is forced out over the whole body.

1263. Although fever be not a conſtant attendant of this diſeaſe, eſpecially when ariſing from a leſion of nerves; yet, in thoſe caſes proceeding from cold, a fever ſometimes has ſupervened, and is ſaid to have been attended with inflammatory ſymptoms. Blood has been often drawn in this diſeaſe, but it never exhibits any inflammatory cruſt; and all accounts ſeem to agree, that the blood drawn ſeems to be of a looſer texture than ordinary, and that it does not coagulate in the uſual manner.

1264. In this diſeaſe the head is ſeldom affected with delirium, or even confuſion of thought, till the laſt ſtage of it; when, by the repeated ſhocks of a violent diſtemper, every function of the ſyſtem is greatly diſordered.

1265. It is no leſs extraordinary, that, in this violent diſeaſe, the natural functions are not either immediately or conſiderably affected. Vomitings ſometimes appear early in the diſeaſe, but commonly they are not continued; and it is uſual enough for the appetite of hunger to remain through the whole courſe of the diſeaſe; and what food happens to be taken down ſeems to be regularly enough digeſted. The excretions are ſometimes affected, but not always. The urine is ſometimes ſuppreſſed, or is voided with difficulty and pain. The belly is coſtive: But, as we have hardly any accounts, excepting of thoſe caſes in which opiates have been largely employed, it is uncertain whether the coſtiveneſs has been the effect of the opiates or of the diſeaſe. In ſeveral inſtances of this diſeaſe, a miliary eruption has appeared upon the ſkin; but, whether this be a ſymptom of the diſeaſe, or the effect of a certain treatment of it, is undetermined. In the mean while, it has not been obſerved to denote either ſafety or danger, or to have any effect in changing the courſe of the diſtemper.

1266. This diſeaſe has generally proved fatal; and this indeed may be juſtly ſuppoſed to be the conſequence of its nature: But, as we know that, till very lately, phyſicians were not well acquainted with a proper method of cure; and that, ſince a more proper method has been known and practiſed, many have recovered from this diſeaſe; it may be therefore concluded, that the fatal tendency of it is not ſo unavoidable as has been imagined.

In judging of the tendency of this diſeaſe, in particular caſes, we may remark, that, when ariſing from leſions of the nerves, it is commonly more violent, and of more difficult cure, than when proceeding from cold; that the diſeaſe which comes on ſuddenly, and advances quickly to a violent degree, is always more dangerous than that which is ſlower in its progreſs. Accordingly, the diſeaſe often proves fatal before the fourth day; and, when a patient has paſſed this period, he may be ſuppoſed to be in greater ſafety, and in general the diſeaſe is the ſafer the longer it has continued. It is, however, to be particularly obſerved, that, even for many days after the fourth, the diſeaſe continues to be dangerous; and, even after ſome conſiderable abatement of its force, it is ready to recur again with its former violence and danger. It never admits of any ſudden, or what may be called a critical ſolution; but always recedes by degrees only, and it is often very long before the whole of the ſymptoms diſappear.

1267. From the hiſtory of the diſeaſe now deſcribed, it will be evident that there is no room for diſtinguiſhing the *tetanus*, *opiſthotonos*, and *triſmus* or *locked jaw*, as different ſpecies of this diſeaſe, ſince they all ariſe from the ſame cauſes, and are almoſt conſtantly conjoined in the ſame perſon. I have no doubt that the *emproſthotonos* belongs alſo to the ſame genus; and, as the ancients have frequently mentioned it, we can have no doubt of its having occurred: But, at the ſame time, it is certainly in theſe days a rare occurrence; and, as I have never ſeen it, nor find any hiſtories in which this particular ſtate of the ſpaſms is ſaid to have prevailed, I cannot mention the other circumſtances which particularly attend it, and may diſtinguiſh it from the other varieties of tetanic complaints.

1268. This diſeaſe has put on ſtill a different form from any of thoſe above mentioned. The ſpaſms have been ſometimes confined to one ſide of the body only, and which bend it ſtrongly to that ſide. This is what has been named by Sauvages the *Tetanus Lateralis*, and by ſome late writers the *Pleuroſthotonos*. This form of the diſeaſe has certainly appeared very ſeldom; and, in any of the accounts given of it, I cannot find any circumſtances that would lead me to conſider it as any other than a variety of the ſpecies already mentioned, or to take further notice of it here.

1269. The pathology of this diſeaſe I cannot in any meaſure attempt; as the ſtructure of moving fibres, the ſtate of them under different degrees of contraction, and particularly the ſtate of the ſenſorium, as variouſly determining the motion of the nervous power, are all matters very imperfectly, or not at all, known to me. In ſuch a ſituation, therefore, the endeavouring to give any rules of practice, upon a ſcientific plan, appears to me vain and fruitleſs; and towards directing the cure of this diſeaſe we muſt be ſatisfied with having learned ſomething uſeful from analogy, confirmed by experience.

1270. When the diſeaſe is known to ariſe from the leſion of a nerve in any part of the body, the firſt, and, as I judge, the moſt important ſtep to be taken towards the cure, is, by every poſſible means, to cut off that part from all communication with the ſenſorium, either by cutting through the nerves in their courſe, or perhaps by deſtroying, to a certain length, their affected part or extremity.

1271. When the cure of the diſeaſe is to be attempted by medicine, experience has taught us that opium has often proved an effectual remedy ; but that, to render it ſuch, it muſt be given in much larger quantities than have been employed in any other caſe ; and, in theſe larger quantities, it may, in this diſeaſe, be given more ſafely than the body has been known to bear in any other condition. The practice has been, to give the opium either in a ſolid or a liquid form, not in any very large doſe at once, but in moderate doſes, frequently repeated, at the interval of one, two, three, or more hours, as the violence of the ſymptoms ſeems to require *. Even when

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* Though the exhibition of opium in Tetanus has been the moſt univerſal practice, it muſt nevertheleſs be acknowledged, that, in many, if not in moſt caſes, it has been ineffectual. The diſeaſe, indeed, is in general fatal ; but, as in moſt of the caſes that terminated happily,

when large quantities have been given in this way, it appears that the opium does not

happily, opium has been given, as the Author deſcribes, either in large doſes, or frequently repeated ſmall doſes, we muſt neceſſarily conclude that the practice ought to be followed.

I have ſeen only one caſe of Tetanus; it proceeded from a wound which a carpenter received in the wriſt of his left arm with a ſaw. The inflammation was violent: The ſtiffneſs of the neck at firſt appeared on the third day, when the inflammation began to abate after bleeding, and the application of emollient poultices; The pulſe was weak and ſmall; thirty drops of laudanum were given; the ſymptoms increaſed; and, on the day following, the jaw became fixed. Thirty drops of laudanum were repeated; and the ſymptoms abating within two hours after its exhibition, indicated a repetition of the doſe, which, from its good effects, was a fourth time repeated that ſame day. The wound ſuppurated; and the day following, with two doſes of forty drops of laudanum, the ſymptoms of Tetanus wholly diſappeared, but left the patient in a moſt debilitated ſtate. A coſtiveneſs ſupervened, that was removed with not operate here in the ſame manner as in moſt other caſes ; for, though it procure ſome remiſſion of the ſpaſms and pains, it hardly induces any ſleep, or occaſions that ſtupor, intoxication, or delirium, which it often does in other circumſtances, when much ſmaller quantities only have been given. It is therefore very properly obſerved, that, in tetanic affections, as the opium ſhows none of thoſe effects by which it may endanger life, there is little or no reaſon for being ſparing in the exhibition of it ; and it may be given, probably ſhould be given, as largely and as faſt as the ſymptoms of the diſeaſe may ſeem to demand.

It is particularly to be obſerved, that, though the firſt exhibition of the opium may

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with the uſe of manna and Glauber's ſalts occaſionally : The patient was nouriſhed with rich broths and wine ; but he did not recover his former ſtrength till after ſix weeks, although the wound healed in half that time.

may have produced ſome remiſſion of the ſymptoms, yet the effects of opium do not long continue in the ſyſtem; and this diſeaſe being for ſome time ready to recur, it is commonly very neceſſary, by the time that the effects of the opium given may be ſuppoſed to be wearing off, and eſpecially upon the leaſt appearance of the return of the ſpaſms, to repeat the exhibition of the opium in the ſame quantities as before. This practice is to be continued while the diſeaſe continues to ſhow any diſpoſition to return; and it is only after the diſeaſe has already ſubſiſted for ſome time, and when conſiderable and long-continued remiſſions have taken place, that the doſes of the opium may be diminiſhed, and the intervals of exhibiting them be more conſiderable.

1272. The adminiſtering of opium in this manner has, in many caſes, been ſucceſsful;

ceſsful; and probably would have been equally ſo in many others, if the opium had not been too ſparingly employed, either from the timidity of practitioners, or from its exhibition being prevented by that interruption of deglutition which ſo often attends this diſeaſe. This latter circumſtance directs that the medicine ſhould be immediately and largely employed upon the firſt approach of the diſeaſe, before the deglutition becomes difficult; or that, if this opportunity be loſt, the medicine, in ſufficient quantity, and with due frequency, ſhould be thrown into the body by glyſter; which, however, does not ſeem to have been hitherto often practiſed.

1273. It is highly probable, that, in this diſeaſe, the inteſtines are affected with the ſpaſm that prevails ſo much in other parts of the ſyſtem; and therefore, that coſtiveneſs occurs here as a ſymptom of the diſeaſe.

eaſe *. It is probably alſo increaſed by the opium, which is here ſo largely employed; and, from whichever of theſe cauſes it ariſes, it certainly muſt be held to aggravate the diſeaſe; and that a relaxation of the inteſtinal canal will contribute to a relaxation of the ſpaſms elſewhere. This conſideration directs the frequent exhibition of laxatives while the power of deglutition remains, or the frequent exhibition of glyſters when it does not; and the good effects of both have been frequently obſerved.

1274. It has been with ſome probability ſuppoſed that the operation of opium in this diſeaſe, may be much aſſiſted by joining with it ſome other of the moſt powerful antiſpaſmodics. The moſt promiſing

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* This ſymptom occurred in the caſe mentioned in the preceding note.

are muſk and camphire ; and ſome practitioners have been of opinion that the former has proved very uſeful in tetanic complaints. But, whether it be from its not having been employed of a genuine kind, or in ſufficient quantity, the great advantage and propriety of its uſe are not yet clearly aſcertained It appears to me probable, that, analogous to what happens with reſpect to opium, both muſk and camphire might be employed in this diſeaſe, in much larger quantities than they commonly have been in other caſes.

1275 Warm bathing has been commonly employed as a remedy in this diſeaſe, and often with advantage ; but, ſo far as I know, it has not alone proved a cure ; and, in ſome caſes, whether it be from the motion of the body here required, exciting the ſpaſms, or from the fear of the bath, which ſome perſons were ſeized with, I cannot determine ; but it is allowed that the warm bath hath in ſome caſes done harm, and even occaſioned death. Partial fomentations have been much commended, and, I believe, upon good grounds: And I have no doubt but that fomentations of the feet and legs, as we now uſually apply them in fevers, might, without much ſtirring of the patient, be very aſſiduouſly employed with advantage.

1276. Unctuous applications were very frequently employed in this diſeaſe by the ancients: And ſome modern practitioners have conſidered them as very uſeful. Their effects, however, have not appeared to be conſiderable; and, as a weak auxiliary only, attended with ſome inconvenience, they have been very much neglected by the Britiſh practitioners.

1277. Bleeding has been formerly employed in this diſeaſe; but, of late, it has been found prejudicial, excepting in a few caſes, where, in plethoric habits, a fever has ſupervened. In general, the ſtate of men's bodies in warm climates is unfavourable to blood-letting: And, if we may form indications from the ſtate of the blood drawn out of the veins, the ſtate of this in tetanic diſeaſes would forbid bleeding in them.

1278. Bliſtering alſo has been formerly employed in this diſeaſe; but ſeveral practitioners aſſert, that bliſters are conſtantly hurtful, and they are now generally omitted.

1279. Theſe are the practices that hitherto have been generally employed; but, of late, we are informed by ſeveral Weſt India practitioners, that, in many inſtances, they have employed mercury with great advantage. We are told that it muſt be employed early in the diſeaſe; that it is moſt conveniently adminiſtered by unction,

tion, and ſhould be applied in that way in large quantities, ſo that the body may be ſoon filled with it, and a ſalivation raiſed, which is to be continued till the ſymptoms yield. Whether this method alone be generally ſufficient for the cure of the diſeaſe, or if it may be aſſiſted by the uſe of opium, and require this in a certain meaſure to be joined with it, I have not yet certainly learned.

1280. I have been further informed, that the tetanus, in all its different degrees, has been cured by giving internally the Piſſelæum Barbadenſe, or, as it is vulgarly called, the Barbadoes Tar. I think it proper to take notice of this here, although I am not exactly informed what quantities of this medicine are to be given, or in what circumſtances of the diſeaſe it is moſt properly to be employed.

1280 *. In the former edition of this work, among the remedies of tetanus, I did not mention the uſe of cold bathing; becauſe, though I heard of this, I was not informed of ſuch frequent employment of it as might confirm my opinion of its general efficacy; nor was I ſufficiently informed of the ordinary and proper adminiſtration of it. But now, from the information of many judicious practitioners who have frequently employed it, I can ſay that it is a remedy which, in numerous trials, has been found to be of great ſervice in this diſeaſe; and that, while the uſe of the ambiguous remedy of warm bathing is entirely laid ſide, the uſe of cold bathing is over the whole of the Weſt Indies commonly employed. The adminiſtration of it is ſometimes by bathing the perſon

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* The paragraphs were thus numbered in the laſt edition.

perſon in the ſea, or more frequently by throwing cold water from a baſon or bucket upon the patient's body, and over the whole of it: When this is done, the body is carefully wiped dry, wrapped in blankets, and laid a-bed, and, at the ſame time, a large doſe of an opiate is given. By theſe means, a conſiderable remiſſion of the ſymptoms is obtained; but this remiſſion, at firſt, does not commonly remain long, but, returning again in a few hours, the repetition both of the bathing and the opiate becomes neceſſary. By theſe repetitions, however, longer intervals of eaſe are obtained, and at length the diſeaſe is entirely cured; and this even happens ſometimes very quickly. I have only to add, that it does not appear to me, from any accounts I have yet had, that the cold bathing has been ſo frequently employed, or has been found ſo commonly ſucceſsful in the caſes of tetanus in conſequence of wounds, as in thoſe from the application of cold.

1281. Before concluding this chapter, it is proper for me to take ſome notice of that peculiar caſe of the tetanus, or triſmus, which attacks certain infants ſoon after their birth, and has been properly enough named the Triſmus Naſcentium. From the ſubjects it affects, it ſeems to be a peculiar diſeaſe: For theſe are infants not above two weeks, and commonly before they are nine days old; inſomuch that, in countries where the diſeaſe is frequent, if children paſs the period now mentioned, they are conſidered as ſecure againſt its attacks. The ſymptom of it chiefly taken notice of is the triſmus, or locked jaw, which is by the vulgar improperly named the Falling of the Jaw. But this is not the only ſymptom, as, for the moſt part, it has all the ſame ſymptoms as the Opiſthotonos and Tetanus ſtrictly ſo called, and which occur in the other varieties of tetanic complaints above deſcribed. Like the other varieties of tetanus, this is moſt frequent in warm climates; but it is not, like thoſe ariſing from the application of cold, entirely confined to ſuch warm climates, as inſtances of it have occurred in moſt of the northern countries of Europe. In theſe latter it ſeems to be more frequent in certain diſtricts than in others; but, in what manner limited, I cannot determine. It ſeems to be more frequent in Switzerland than in France. I am informed of its frequently occurring in the Highlands of Scotland; but I have never met with any inſtance of it in the low country. The particular cauſes of it are not well known; and various conjectures have been offered; but none of them are ſatisfying. It is a diſeaſe that has been almoſt conſtantly fatal; and this, alſo, commonly in the courſe of a few days. The women are ſo much perſuaded of its inevitable fatality, that they ſeldom or never call for the aſſiſtance of our art. This has occaſioned our being little acquainted with the hiſtory of the diſeaſe, or with the effects of remedies in it. Analogy, however, would lead us to employ the ſame remedies that have proved uſeful in the other caſes of tetanus; and the few experiments that are yet recorded ſeem to approve of ſuch a practice.

CHAP. II.

OF

EPILEPSY.

1282. IN what ſenſe I uſe the term *Convulſion*, I have explained above in 1256.

The convulſions that affect the human body are in ſeveral reſpects various; but I am to conſider here only the chief and moſt frequent form in which they appear, and which is in the diſeaſe named *Epilepſy.* This may be defined, as conſiſting in convulſions of the greater part of the muſcles of voluntary motion, attended with a loſs of ſenſe, and ending in a ſtate of inſenſibility and ſeeming ſleep.

1283. The general form or principal circumſtances of this diſeaſe are much the ſame in all the different perſons whom it it affects. It comes by fits, which often attack perſons ſeemingly in perfect health; and, after laſting for ſome time, paſs off, and leave the perſons again in their uſual ſtate. Theſe fits are ſometimes preceded by certain ſymptoms, which, to perſons who have before experienced ſuch a fit, may give notice of its approach, as we ſhall hereafter explain; but even theſe preludes do not commonly occur long before the formal attack, which in moſt caſes comes on ſuddenly, without any ſuch warning.

The perſon attacked loſes ſuddenly all ſenſe and power of motion; ſo that, if ſtanding, he falls immediately, or perhaps, with convulſions, is thrown to the ground. In that ſituation, he is agitated with violent convulſions, variouſly moving his limbs and the trunk of his body. Commonly the limbs on one ſide of the body are more violently or more conſiderably agitated than thoſe upon the other. In all caſes, the muſcles of the face and eyes are much affected, exhibiting various and violent diſtortions of the countenance. The tongue is often affected, and thruſt out of the mouth; while the muſcles of the lower jaw are alſo affected; and, ſhutting the mouth with violence while the tongue is thruſt out between the teeth, that is often grievouſly wounded.

While theſe convulſions continue, there is commonly, at the ſame time, a frothy moiſture iſſuing from the mouth. Theſe convulſions have for ſome moments ſome remiſſions, but are ſuddenly again renewed with great violence. Generally, after no long time, the convulſions ceaſe altogether; and the perſon for ſome time remains without motion, but in a ſtate of abſolute inſenſibility, and under the appearance of a profound ſleep. After ſome continuance of this ſeeming ſleep, the perſon ſometimes ſuddenly, but for the moſt part by degrees only, recovers his ſenſes and power of motion; but without any memory of what had paſſed from his being firſt ſeized with the fit. During the convulſions, the pulſe and reſpiration are hurried and irregular; but, when the convulſions ceaſe, they return to their uſual regularity and healthy ſtate.

This is the general form of the diſeaſe; and it varies only in different perſons, or on different occaſions in the ſame perſon, by the phenomena mentioned being more or leſs violent, or by their being of longer or ſhorter duration.

1284. With reſpect to the proximate cauſe of this diſeaſe, I might ſay, that it is an affection of the energy of the brain, which, ordinarily under the direction of the will, is here, without any concurrence of it, impelled by preternatural cauſes. But I could go no farther: For, as to what is the mechanical condition of the brain in the ordinary exertions of the will, I have no diſtinct knowledge; and therefore muſt be alſo ignorant of the preternatural ſtate of the ſame energy of the brain under the irregular motions here produced. To form, therefore, the indications of a cure, from a knowledge of the proximate cauſe of this diſeaſe, I muſt not attempt; but, from diligent attention to the remote cauſes which firſt induce and occaſionally excite the diſeaſe, I think we may often obtain ſome uſeful directions for its cure. It ſhall there-

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fore be my buſineſs now to point out and enumerate theſe remote cauſes as well as I can.

1285. The remote cauſes of epilepſy may be conſidered as occaſional or prediſponent. There are, indeed, certain remote cauſes which act independently of any prediſpoſition; but, as we cannot always diſtinguiſh theſe from the others, I ſhall conſider the whole under the uſual titles of *Occaſional* or *Prediſponent.*

1286. The occaſional cauſes may, I think, be properly referred to two general heads; the *firſt* being of thoſe which ſeem to act by directly ſtimulating and exciting the energy of the brain; and the *ſecond*, of thoſe which ſeem to act by weakening the ſame. With reſpect to both, for the brevity of expreſſing a fact, without meaning to explain the manner in which it is brought about, I ſhall uſe the terms of *Excitement* and *Collapſe*. And, though it be true that, with reſpect to ſome of the cauſes I am to mention, it may be a little uncertain whether they act in the one way or the other, that does not render it improper for us to mark, with reſpect to others, the mode of their operating, wherever we can do it clearly, as the doing ſo may often be of uſe in directing our practice.

1287. Firſt, then, of the occaſional cauſes acting by excitement: They are either ſuch as act immediately and directly upon the brain itſelf; or thoſe which are firſt applied to the other parts of the body, and are from thence communicated to the brain.

1288. The cauſes of excitement immediately and directly applied to the brain, may be referred to the four heads of,

1. Mechanical Stimulants;
2. Chemical Stimulants;
3. Mental Stimulants; and,
4. The peculiar Stimulus of Over-diſtention.

1289. The mechanical ſtimulants may be, wounding inſtruments penetrating the cranium, and entering the ſubſtance of the brain; or ſplinters of a fractured cranium, operating in the ſame manner; or ſharp-pointed oſſifications, either ariſing from the internal ſurface of the cranium, or formed in the membranes of the brain.

1290. The chemical ſtimulants (1288.) may be fluids from various cauſes lodged in certain parts of the brain, and become acrid by ſtagnation, or otherwiſe.

1291. The mental irritations acting by

excitement, are all violent emotions of the active kind, ſuch as joy and anger. The firſt of theſe is manifeſtly an exciting power, acting ſtrongly, and immediately, on the energy of the brain. The ſecond is manifeſtly, alſo, a power acting in the ſame manner. But it muſt be remarked, that it is not in this manner alone anger produces its effects: For it acts, alſo, ſtrongly on the ſanguiferous ſyſtem, and may be a means of giving the ſtimulus of over-diſtention; as, under a fit of anger, the blood is impelled into the veſſels of the head with violence, and in a larger quantity.

1292. Under the head of Mental Irritations is to be mentioned, the ſight of perſons in a fit of epilepſy, which has often produced a fit of the like kind in the ſpectator. It may, indeed, be a queſtion, Whether this effect be imputable to the horror produced by a ſight of the ſeemingly painful agitations of the limbs, and of the diſtortions in the countenance of the epileptic perſon; or if it may be aſcribed to the force of imitation merely? It is poſſible that horror may ſometimes produce the effect; but certainly much may be imputed to that propenſity to imitation, at all times ſo powerful and prevalent in human nature; and ſo often operating in other caſes of convulſive diſorders, which do not preſent any ſpectacle of horror.

1293. Under the ſame head of Mental Irritation, I think proper to mention, as an inſtance of it, the Epilepſia Simulata, or the Feigned Epilepſy, ſo often taken notice of. Although this, at firſt, may be entirely feigned, I have no doubt but that the repetition renders it at length real. The hiſtory of Quietiſm and of Exorciſms leads me to this opinion; and which receives a confirmation from what we know of the power of imagination, in renewing epileptic and hyſteric fits.

1294. I come now to the fourth head of the irritations applied immediately to the brain, and which I apprehend to be that of the Over-diſtention of the blood-veſſels in that organ. That ſuch a cauſe operates in producing epilepſy, is probable from this, that the diſſection of perſons dead of epilepſy has commonly diſcovered the marks of a previous congeſtion in the blood-veſſels of the brain. This, perhaps, may be ſuppoſed the effect of the fit which proved fatal: But that the congeſtion was previous thereto is probable from the epilepſy being ſo often joined with headach, mania, palſy, and apoplexy; all of them diſeaſes depending upon a congeſtion in the veſſels of the brain. The general opinion receives alſo confirmation from this circumſtance, that, in the brain of perſons dead of epilepſy, there have been often found tumours and effuſions, which, though ſeemingly not ſufficient to produce thoſe diſeaſes which depend on the compreſſion of a conſiderable portion of the brain, may, however, have been ſufficient to compreſs ſo many veſſels as to render the others upon any occaſion of a more than uſual turgeſcence, or impulſe of the blood into the veſſels of the brain more liable to an over-diſtention.

1295. Theſe conſiderations alone might afford foundation for a probable conjecture with reſpect to the effects of over-diſtention. But the opinion does not reſt upon conjecture alone. That it is alſo founded in fact appears from hence, that a plethoric ſtate is favourable to epilepſy; and that every occaſional turgeſcence, or unuſual impulſe of the blood into the veſſels of the brain, ſuch as a fit of anger, the heat of the ſun, or of a warm chamber, violent exerciſe, a ſurfeit, or a fit of intoxication, are frequently the immediate exciting cauſes of epileptic fits.

1296. I venture to remark further, that a piece of theory may be admitted as a confirmation of this doctrine. As I have formerly maintained, that a certain fulneſs and tenſion of the veſſels of the brain is neceſſary to the ſupport of its ordinary and conſtant energy, in the diſtribution of the nervous power; ſo it muſt be ſufficiently probable, that an over-diſtention of theſe blood-veſſels may be a cauſe of violent excitement.

1297. We have now enumerated the ſeveral remote or occaſional cauſes of epilepſy, acting by excitement, and acting immediately upon the brain itſelf. Of the cauſes acting by excitement, but acting upon other parts of the body, and from thence communicated to the brain, they are all of them impreſſions producing an exquiſite or high degree either of pleaſure or pain.

Impreſſions which produce neither the one nor the other, have hardly any ſuch effects, unleſs when ſuch impreſſions are in a violent degree; and then their operations may be conſidered as a mode of pain. It is, however, to be remarked, that all ſtrong impreſſions which are ſudden and ſurpriſing, or, in other words, unforeſeen and unexpected, have frequently the effect of bringing on epileptic fits.

1298. There are certain impreſſions made upon different parts of the body which, as they often operate without producing any ſenſation, ſo it is uncertain to what head they belong: But it is probable that the greater part of them act by excitement, and therefore fall to be mentioned here. The chief inſtances are, The teething of infants;

worms; acidity or other acrimony in the alimentary canal; calculi in the kidneys; acrid matter in abſceſſes or ulcers; or acrimony diffuſed in the maſs of blood, as in the caſe of ſome contagions.

1299. Phyſicians have found no difficulty in comprehending how direct ſtimulants, of a certain force, may excite the action of the brain, and occaſion epilepſy; but they have hitherto taken little notice of certain cauſes which manifeſtly weaken the energy of the brain, and act, as I ſpeak, by collapſe. Theſe, however, have the effect of exciting the action of the brain in ſuch a manner as to occaſion epilepſy. I might, upon this ſubject, ſpeak of the *vis medicatrix naturæ;* and there is a foundation for the term: But, as I do not admit the Stahlian doctrine of an adminiſtering ſoul, I make uſe of the term only as expreſſing a fact, and would not employ it with the view of conveying an explanation of the manner in which the powers of collapſe mechanically produce their effects. In the mean time, however, I maintain, that there are certain powers of collapſe, which in effect prove ſtimulants, and produce epilepſy.

1300. That there are ſuch powers, which may be termed Indirect Stimulants, I conclude from hence, that ſeveral of the cauſes of epilepſy are ſuch as frequently produce ſyncope, which we ſuppoſe always to depend upon cauſes weakening the energy of the brain (1176.). It may give ſome difficulty to explain why the ſame cauſes ſometimes occaſion ſyncope, and ſometimes occaſion the reaction that appears in epilepſy; and I ſhall not attempt to explain it: But this, I think, does not prevent my ſuppoſing that the operation of theſe cauſes is by collapſe. That there are ſuch cauſes producing epilepſy, will, I think, appear very clearly from the particular examples of them I am now to mention.

1301. The firſt to be mentioned, which I ſuppoſe to be of this kind, is hemorrhagy, whether ſpontaneous or artificial. That the ſame hemorrhagy which produces ſyncope often, at the ſame time, produces epilepſy, is well known; and, from many experiments and obſervations, it appears, that hemorrhagies occurring to ſuch a degree as to prove mortal, ſeldom do ſo without firſt producing epilepſy.

1302. Another cauſe acting, as I ſuppoſe, by collapſe, and therefore ſometimes producing ſyncope, and ſometimes epilepſy, is terror; that is, the fear of ſome great evil ſuddenly preſented. As this produces at the ſame time a ſudden and conſiderable emotion, (1180.), ſo it more frequently produces epilepſy than ſyncope.

1303. A third cauſe acting by collapſe, and producing epilepſy, is horror; or a ſtrong averſion ſuddenly raiſed by a very diſagreeable ſenſation, and frequenly ariſing from a ſympathy with the pain or danger of another perſon. As horror is often a cauſe of ſyncope, there can be no doubt of its manner of operating in producing epilepſy; and it may perhaps be explained upon this general principle, That, as deſire excites action and gives activity, ſo averſion reſtrains from action, that is, weakens the energy of the brain; and, therefore, that the higher degrees of averſion may have the effects of producing ſyncope or epilepſy.

1304. A fourth ſet of the cauſes of epilepſy, which I ſuppoſe alſo to act by collapſe, are certain odours, which occaſion either ſyncope or epilepſy; and, with reſpect to the former, I have given my reaſons (1182.) for ſuppoſing odours in that caſe to act rather as diſagreeable than as ſedative. Theſe reaſons will, I think, alſo apply here; and perhaps the whole affair of odours might be conſidered as inſtances of the effect of horror, and therefore belonging to the laſt head.

1305. A fifth head of the cauſes producing epilepſy by collapſe, is the operation of many ſubſtances conſidered, and for the moſt part properly conſidered, as poiſons. Many of theſe, before they prove mortal, occaſion epilepſy. This effect, indeed, may in ſome caſes be referred to the inflammatory operation which they ſometimes diſcover in the ſtomach, and other parts of the alimentary canal; but, as the greater part of the vegetable poiſons ſhow chiefly a narcotic, or ſtrongly ſedative power, it is probably by this power that they produce epilepſy, and therefore belong to this head of the cauſes acting by collapſe.

1306. Under the head of the remote cauſes producing epilepſy, we muſt now mention that peculiar one whoſe operation is accompanied with what is called the *Aura Epileptica.* This is a ſenſation of ſomething moving in ſome part of the limbs or trunk of the body, and from thence creeping upwards to the head; and, when it arrives there, the perſon is immediately deprived of ſenſe, and falls into an epileptic fit. This motion is deſcribed by the perſon's feeling it ſometimes as a cold vapour, ſometimes as a fluid gliding, and ſometimes as the ſenſe of a ſmall inſect creeping along their body; and very often they can give no diſtinct idea of their ſenſation, otherwiſe than as in general of ſomething moving along. This ſenſation might be ſuppoſed to ariſe from ſome affection of the extremity or other part of a nerve acted upon by ſome irritating matter; and that the ſenſation, therefore, followed the courſe of ſuch a nerve: But I have never found it following diſtinctly the courſe of any nerve; and it generally ſeems to paſs along the teguments. It has been found in ſome inſtances to ariſe from ſomething preſſing upon or irritating a particular nerve, and that ſometimes in conſequence of contuſion or wound: But inſtances of theſe are more rare; and the more common conſequence of contuſions and wounds is a tetanus. This latter effect wounds produce, without giving any ſenſation of an aura or other kind of motion proceeding from the wounded part to the head; while, on the other hand, the aura producing epilepſy often ariſes from a part which had never before been affected with wound or contuſion, and in which part the nature of the irritation can ſeldom be diſcovered.

It is natural to imagine that this aura epileptica is an evidence of ſome irritation or direct ſtimulus acting in the part, and from thence communicated to the brain, and ſhould therefore have been mentioned among the cauſes acting by excitement; but the remarkable difference that occurs in ſeemingly like cauſes producing tetanus, gives ſome doubt on this ſubject.

1307. Having now enumerated the occaſional cauſes of epilepſy, I proceed to conſider the prediſponent. As ſo many of the abovementioned cauſes act upon certain perſons, and not at all upon others, there muſt be ſuppoſed in thoſe perſons a prediſpoſition to this diſeaſe: But, in what this prediſpoſition conſiſts, is not to be eaſily aſcertained.

1308. As many of the occaſional cauſes are weak impreſſions, and are applied to moſt perſons with little or no effect, I conclude, that the perſons affected by thoſe cauſes are more eaſily moved than others; and therefore that, in this caſe, a certain mobility gives the prediſpoſition. It will, perhaps, make this matter clearer, to ſhow, in the firſt place, that there is a greater mobility of conſtitution in ſome perſons than in others.

1309. This mobility appears moſt clearly in the ſtate of the mind. If a perſon is readily elated by hope, and as readily depreſſed by fear, and paſſes eaſily and quickly from the one ſtate to the other; if he is eaſily pleaſed, and prone to gaiety, and as eaſily provoked to anger, and rendered peeviſh; if liable, from ſlight impreſſions, to ſtrong emotions, but tenacious of none; this is the boyiſh temperament, *qui colligit ac ponit iram temere, et mutatur in horas*; this is the *varium et mutabile fœmina;* and, both in the boy and woman, every one perceives and acknowledges a mobility of mind. But this is neceſſarily connected with an analogous ſtate of the brain; that is, with a mobility, in reſpect of every impreſſion, and therefore liable to a ready alternation of excitement and collapſe, and of both to a conſiderable degree.

1310. There is, therefore, in certain perſons, a mobility of conſtitution, generally derived from the ſtate of original ſtamina, and more exquiſite at a certain period of life than at others; but ſometimes ariſing from, and particularly modified by, occurrences in the courſe of life.

1311. This mobility conſiſts in a greater degree of either ſenſibility or irritability. Theſe conditions, indeed, phyſicians conſider as ſo neceſſarily connected, that the conſtitution, with reſpect to them, may be conſidered as one and the ſame: But I am of opinion that they are different; and that mobility may ſometimes depend upon an increaſe of the one, and ſometimes on that of the other. If an action excited is, by repetition, rendered more eaſily excited, and more vigorouſly performed, I conſider this as an increaſe of irritability only. I go no farther on this ſubject here, as it was only neceſſary to take notice of the caſe juſt now mentioned, for the purpoſe of explaining why epilepſy, and convulſions of all kinds, by being repeated, are more eaſily excited, readily become habitual, and are therefore of more difficult cure.

1312. However we may apply the diſtinction of ſenſibility and irritability, it appears that the mobility, which is the prediſponent cauſe of epilepſy, depends more particularly upon debility, or upon a plethoric ſtate of the body.

1313. What ſhare debility, perhaps by inducing ſenſibility, has in this matter, appears clearly from hence, that children, women, and other perſons of manifeſt debility, are the moſt frequent ſubjects of this diſeaſe.

1314. The effects of a plethoric ſtate in diſpoſing to this diſeaſe appears from hence, that plethoric perſons are frequently the ſubjects of it: That it is commonly excited, as I have ſaid above, by the cauſes of any unuſual turgeſcence of the blood; and that it has been frequently cured by diminiſhing the plethoric ſtate of the body.

That a plethoric ſtate of the body ſhould diſpoſe to this diſeaſe, we may underſtand from ſeveral conſiderations.

1*ſt*, Becauſe a plethoric ſtate implies, for the moſt part, a laxity of the ſolids, and therefore ſome debility in the moving fibres.

2*dly*, Becauſe, in a plethoric ſtate, the tone of the moving fibres depends more upon their tenſion, than upon their inherent power: And, as their tenſion depends upon the quantity and impetus of the fluids in the blood-veſſels, which are very changeable, and by many cauſes frequently changed, ſo theſe frequent changes muſt give a mobility to the ſyſtem.

3*dly*, Becauſe a plethoric ſtate is favourable to a congeſtion of blood in the veſſels of the brain, it muſt render theſe more readily affected by every general turgeſcence of the blood in the ſyſtem, and therefore more eſpecially diſpoſe to this diſeaſe.

1315. There is another circumſtance of the body diſpoſing to epilepſy, which I cannot ſo well account for; and that is, the ſtate of ſleep: But, whether I can account for it or not, it appears, in fact, that this ſtate gives the diſpoſition I ſpeak of; for, in many perſons liable to this diſeaſe, the fits happen only in the time of ſleep, or immediately upon the perſon's coming out of it. In a caſe related by De Haen, it appeared clearly, that the diſpoſition to epilepſy depended entirely upon the ſtate of the body in ſleep *.

1316. Having thus conſidered the whole of the remote cauſes of epilepſy, I proceed to

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* This was a very ſingular caſe. The chief circumſtances in it were, that the boy was more liable to the paroxyſms when lying and aſleep, than when ſitting up and awake. This peculiarity was not obſerved till the diſeaſe had been of ſome ſtanding; and, on a more minute attention, the paroxyſms were found to be more frequent when the patient was in a peculiar ſtate of ſleeping, namely, when he was drowſy, or when he ſnored in his ſleep, the paroxyſms were more frequent than when he enjoyed an eaſy and quiet ſleep. A natural, quiet, and eaſy ſleep, was procured by the uſe of opium; and, in a ſhort time, the diſeaſe was perfectly cured; but the boy died afterwards, in conſequence of a tumor in the groin.

to treat of its cure, as I have ſaid it is from the conſideration of thoſe remote cauſes only that we can obtain any directions for our practice in this diſeaſe *.

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* Other cauſes of Epilepſy are enumerated by medical writers, which the author, for the ſake of brevity, left unnoticed.

Caſes have occurred in which the epilepſy ſeems to have proceeded from an hereditary taint.

Quickſilver, either accidentally or intentionally applied, has been frequently found to produce epilepſy. Perſons employed in gilding of metals are often ſeized with tremblings of the hands, with palſy, and with epilepſy, which can be attributed to nothing elſe than the abſorption of the vapours of mercury uſed in the operation, which is as follows: The piece of metal to be gilt is firſt well cleaned and poliſhed; ſome mercury ſhaken with aquafortis is ſpread upon it, till the ſurface appears all over as white as ſilver; being then heated and retouched in thoſe parts that have eſcaped the mixture, an amalgama of mercury and gold is laid on it;

the

I begin with obſerving, that, as the diſeaſe may be conſidered as ſympathic or idiopathic, I muſt treat of theſe ſeparately, and

the heat ſoftening the amalgama, makes it ſpread more uniformly ; and the intervention of the mercury and aquafortis makes it adhere more firmly. The piece thus covered with the amalgama is placed on a convenient ſupport, over a charcoal fire ; and examined, from time to time, as the mercury evaporates, that, if any deficiencies appear, they may be ſupplied with a little more of the amalgama before the operation is completed. This proceſs neceſſarily expoſes the artiſt to the fumes of the mercury.

Van Swieten ſays that he has ſeen ſkulls, in the dipploë of which globules of mercury manifeſtly appeared ; and he thinks it probable that the mercury may poſſibly be thrown out into the cavities of the brain itſelf, and produce much miſchief.

Venery, when exceſſive, has been enumerated among the cauſes of epilepſy by Boerhaave, but on what authority ſeems uncertain.

and judge it proper to begin with the former.

1317. When this diſeaſe is truly ſympathic, and depending upon a primary affection in ſome other part of the body, ſuch as acidity or worms in the alimentary canal, teething, or other ſimilar cauſes, it is obvious that ſuch primary affections muſt be removed for the cure of the epilepſy; but it is not our buſineſs here to ſay how theſe primary diſeaſes are to be treated.

1318. There is, however, a peculiar caſe of ſympathic epilepſy; that is, the caſe accompanied with the *aura epileptica*, as deſcribed in (1306.), in which, though we can perceive by the *aura epileptica* ariſing from a particular part, that there is ſome affection in that part; yet, as in many ſuch caſes we cannot perceive of what nature the affection is, I can only offer the following general directions.

1ſt, When the part can with ſafety be entirely deſtroyed, we ſhould endeavour to do ſo by cutting it out, or by deſtroying it by the application of an actual or potential cautery.

2dly, When the part cannot be properly deſtroyed, that we ſhould endeavour to correct the morbid affection in it by bliſtering, or by eſtabliſhing an iſſue upon the part.

3dly, When theſe meaſures cannot be executed, or do not ſucceed, if the diſeaſe ſeems to proceed from the extremity of a particular nerve which we can eaſily come at in its courſe, it will be proper to cut through that nerve, as before propoſed on the ſubject of tetanus.

4thly, When it cannot be perceived that the *aura* ariſes from any preciſe place or point, ſo as to direct to the above mentioned operations; but, at the ſame time, we can perceive its progreſs along the limb: It frequently happens that the epilepſy can be prevented by a ligature applied upon the limb, above the part from which the *aura* ariſes: And this is always proper to be done, both becauſe the preventing a fit breaks the habit of the diſeaſe, and becauſe the frequent compreſſion renders the nerves leſs fit to propagate the *aura*.

1319. The cure of idiopathic epilepſy, as I have ſaid above, is to be directed by our knowledge of the remote cauſes. There are therefore two general indications to be formed: The firſt is, to avoid the occaſional cauſes; and the ſecond is, to remove or correct the prediſponent.

This method, however, is not always purely palliative; as in many caſes the prediſponent may be conſidered as the only proximate cauſe, ſo our ſecond indication may be often conſidered as properly curative.

1320. From the enumeration given above, it will be manifeſt, that, for the moſt part, the occaſional cauſes, ſo far as they are in our power, need only to be known, in order to be avoided; and the means of doing this will be ſufficiently obvious. I ſhall here, therefore, offer only a few remarks.

1321. One of the moſt frequent of the occaſional cauſes is that of over-diſtention, (1313.), which, ſo far as it depends upon a plethoric ſtate of the ſyſtem, I ſhall ſay hereafter how it is to be avoided. But as, not only in the plethoric, but in every moveable conſtitution, occaſional turgeſcence is a frequent means of exciting epilepſy, the avoiding therefore of ſuch turgeſcence is what ought to be moſt conſtantly the object of attention to perſons liable to epilepſy.

1322. Another of the moſt frequent exciting cauſes of this diſeaſe are, all ſtrong impreſſions ſuddenly made upon the ſenſes; for, as ſuch impreſſions, in moveable conſtitutions, break in upon the uſual force, velocity, and order, of the motions of the nervous ſyſtem, they thereby readily produce epilepſy. Such impreſſions, therefore, and eſpecially thoſe which are ſuited to excite any emotion or paſſion of the mind, are to be moſt carefully guarded againſt by perſons liable to epilepſy.

1323. In many caſes of epilepſy, where the prediſponent cauſe cannot be corrected or removed, the recurrence of the diſeaſe can only be prevented by the ſtricteſt attention to avoid the occaſional; and, as the diſeaſe is often confirmed by repetition and habit, ſo the avoiding the frequent recurrence of it is of the utmoſt importance toward its cure.

Theſe are the few remarks I have to offer with reſpect to the occaſional cauſes; and muſt now obſerve, that, for the moſt part, the complete, or, as it is called, the Radical Cure, is only to be obtained by removing or correcting the prediſponent cauſe.

1324. I have ſaid above, that the prediſponent cauſe of epilepſy is a certain mobility of the ſenſorium; and that this depends upon a plethoric ſtate of the ſyſtem, or upon a certain ſtate of the debility in it.

1325. How the plethoric ſtate of the ſyſtem is to be corrected, I have treated of fully above in 783. *et ſeq.* and I need not repeat it here. It will be enough to ſay, that it is chiefly to be done by a proper management of exerciſe and diet; and, with reſpect to the latter, it is particularly to be obſerved here, that an abſtemious courſe has been frequently found to be the moſt certain means of curing epilepſy.

1326. Conſidering the nature of the matter poured out by iſſues, theſe may be ſuppoſed to be a conſtant means of obviating the plethoric ſtate of the ſyſtem; and it is, perhaps, therefore, that they have been ſo often found uſeful in epilepſy. Poſſibly, alſo, as an open iſſue may be a means of determining occaſional turgeſcences to ſuch places, and therefore of diverting them in ſome meaſure from their action upon the brain; ſo alſo, in this manner, iſſues may be uſeful in epilepſy.

1327. It might be ſuppoſed that bloodletting would be the moſt effectual means of correcting the plethoric ſtate of the ſyſtem; and ſuch it certainly proves when the plethoric ſtate has become conſiderable, and immediately threatens morbid effects. It is therefore, in ſuch circumſtances, proper and neceſſary: But, as we have ſaid above, that blood-letting is not the proper means of obviating a recurrence of the plethoric ſtate, and, on the contrary, is often the means of favouring it; ſo it is not a remedy adviſeable in every circumſtance of epilepſy. There is, however, a caſe of epilepſy in which there is a periodical or occaſional recurrence of the fulneſs and turgeſcence of the ſanguiferous ſyſtem, giving occaſion to a recurrence of the diſeaſe. In ſuch caſes, when the means of preventing plethora have been neglected, or may have proved ineffectual, it is abſolutely neceſſary for the practitioner to watch the returns of theſe turgeſcences, and to obviate their effects by the only certain means of doing it, that is, by a large blood-letting.

1328. The ſecond cauſe of mobility which we have aſſigned is a ſtate of debility. If this is owing, as it frequently is, to original conformation, it is perhaps not poſſible to cure it; but, when it has been brought on in the courſe of life, it poſſibly may admit of being mended; and, in either caſe, much may be done to obviate and prevent its effects.

1329. The means of correcting debility, ſo far as it can be done, are, the perſon's being much in cool air; the frequent uſe of cold bathing; the uſe of exerciſe, adapted to the ſtrength and habits of the perſon; and, perhaps, the uſe of aſtringent and tonic medicines.

Theſe remedies are ſuited to ſtrengthen the inherent power of the ſolids or moving fibres: But, as the ſtrength of theſe depends alſo upon their tenſion, ſo, when debility has proceeded from inanition, the ſtrength may be reſtored, by reſtoring the fulneſs and tenſion of the veſſels by a nouriſhing diet; and we have had inſtances of the propriety and ſucceſs of ſuch a practice.

1330. The means of obviating the effects of debility, and of the mobility depending upon it, are the uſe of tonic and antiſpaſmodic remedies.

The tonics are, Fear, or ſome danger of terror; aſtringents; certain vegetable and metallic tonics; and cold bathing.

1331. That fear, or ſome degree of terror, may be of uſe in preventing epilepſy, we have a remarkable proof in Boerhaave's cure of the epilepſy, which happened in the Orphan-houſe at Haerlem. See Kauu Boerhaave's treatiſe, intitled, *Impetum Faciens*, § 406. And we have met with ſeveral other inſtances of the ſame.

As the operation of horror is, in many reſpects, analogous to that of terror, ſeveral ſeemingly ſuperſtitious remedies have been employed for the cure of epilepſy; and, if they have ever been ſucceſsful, I think it muſt be imputed to the horror they had inſpired *.

1332. Of the aſtringent medicines uſed for the cure of epilepſy, the moſt celebrated is the *viſcus quercinus*, which, when given in large quantities, may poſſibly be uſeful; but I believe it was more eſpecially ſo in ancient times, when it was an object of ſuperſtition.

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* Drinking a draught of the blood of a gladiator juſt killed; drinking a draught of water with a toad at the bottom of the jug; eating a piece of human liver, or the marrow of the bones of the leg of a malefactor; powder of the human ſkull; or the moſs that grows on it; with a variety of ſuch abominable remedies, were formerly in great repute, and indeed ſome of them are ſtill retained in ſeveral foreign Pharmacopœias.

perſtition. In the few inſtances in which I have ſeen it employed, it did not prove of any effect *.

1333. Among the vegetable tonics, the bitters are to be reckoned; and it is by this quality that I ſuppoſe the orange-tree leaves to have been uſeful: But they are not always ſo.

1334. The vegetable tonic, which, from its uſe in analogous caſes, is the moſt promiſing, is the Peruvian bark; this, upon occaſion, has been uſeful, but has alſo often failed. It is eſpecially adapted to thoſe epilepſies which recur at certain periods, and which are at the ſame time without the recurrence of any plethoric ſtate, or turgeſcence of the blood; and, in ſuch periodical caſes,

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* The doſe of it was from half a dram to a dram in powder, or about an ounce in infuſion.

caſes, if the bark is employed ſome time before the expected recurrence, it may be uſeful; but it muſt be given in large quantity, and as near to the time of the expected return as poſſible.

1335. The metallic tonics ſeem to be more powerful than the vegetable, and a great variety of the former have been employed.

Even arſenic has been employed in the cure of epilepſy; and its uſe in intermittent fevers gives an analogy in its favour.

Preparations of tin have been formerly recommended in the cure of epilepſy, and in the cure of the analogous diſeaſe of hyſteria; and ſeveral conſiderations render the virtues of tin, with reſpect to theſe diſeaſes, probable: But I have had no experience of its uſe in ſuch caſes.

A much ſafer metallic tonic is to be

found in the preparations of iron; and we have ſeen ſome of them employed in the cure of epilepſy, but have never found them to be effectual. This, however, I think, may be imputed to their not having been always employed in the circumſtances of the diſeaſe, and in the quantities of the medicine, that were proper and neceſſary *.

1336. Of the metallic tonics, the moſt celebrated and the moſt frequently employed is copper, under various preparation. What preparation of it may be the moſt effectual, I dare not determine; but of late the *cuprum ammoniacum* has been frequently found ſucceſsful †.

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* The method of uſing iron was deſcribed in a note on article 577.

† This was a favourite remedy of the Author's. He firſt

1337. Lately the flowers of zinc have been recommended by a great authority as uſeful in all convulſive diſorders; but, in caſes of epilepſy, I have not hitherto found that medicine uſeful *.

1338. There have been of late ſome inſtances of the cure of epilepſy by the accidental uſe of mercury; and, if the late accounts

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firſt introduced it into practice in this country, and the preparation of it was inſerted in the Edinburgh Pharmacopœia.

It is employed by beginning with ſmall doſes of half a grain, and increaſing them gradually to as much as the ſtomach will bear. It is, however, like all preparations of copper, a very dangerous medicine, and ought to be uſed with caution.

* The great authority by which the flowers of zinc were recommended was Gaubius. It is as dangerous a medicine as the cuprum ammoniacum, and muſt be uſed with the ſame caution.

counts of the cure of tetanus by this remedy are confirmed, it will allow us to think that the ſame may be adapted alſo to the cure of certain caſes of epilepſy.

1339. With reſpect to the employment of any of the above mentioned tonics in this diſeaſe, it muſt be obſerved, that, in all caſes where the diſeaſe depends upon a conſtant or occaſional plethoric ſtate of the ſyſtem, theſe remedies are likely to be ineffectual; and, if ſufficient evacuations are not made at the ſame time, theſe medicines are likely to be very hurtful.

1340. The other ſet of medicines which we have mentioned as ſuited to obviate the effects of the too great mobility of the ſyſtem, are the medicines named *antiſpaſmodics*. Of theſe there is a long liſt in the writers on the Materia Medica, and by theſe authors recommended for the cure of epilepſy. The greater part, however, of thoſe taken from the vegetable kingdom are manifeſtly inert and inſignificant *. Even the root of the wild valerian hardly ſupports its credit.

1341 Certain ſubſtances taken from the animal kingdom ſeem to be much more powerful: And of theſe the chief, and ſeemingly the moſt powerful, is muſk; which,

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* This is certainly true; but it muſt be acknowledged that ſome of them are manifeſtly active and uſeful, as the aſafœtida, ſagapenum, and other fetid gums. The pilulæ gummoſæ of the Pharmacopœias are good formulæ for theſe nauſeous medicines; and their being reputed inefficacious and inſignificant ſeems to have ariſen from their not having been given in ſufficiently large doſes. They may be given with ſafety to the quantity of two drams in a day, in repeated doſes of twenty or thirty grains each; and, if they ſhould happen to purge, this inconvenience may be prevented, by adding a quarter or half a grain of opium to each doſe of the pills, or taking ten drops of laudanum after each doſe, as occaſion may require.

which, employed in its genuine ſtate, and in due quantity, has often been an effectual remedy *.

It is probable alſo, that the *oleum animale*, as it has been named, when in its pureſt ſtate, and exhibited at a proper time, may be an effectual remedy †.

1342.

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* Muſk is more effectual when given in ſubſtance than in any preparation that has been attempted; it is given in doses of from ten to thirty grains, and frequently repeated. It may be made into a bolus, as in the following formula:

℞ Moſch. gr. xv.
Tere in mortar. marmor. cum
Sacch. alb. ℈i.; et adde
Confect. cardiac. ʒſs.
M. f. Bolus.

This bolus may be repeated three or four times a-day.

† The doſe of this oil is from twenty to thirty drops; it is, however, ſeldom uſed.

1342. In many diſeaſes, the moſt powerful antiſpaſmodic is certainly opium; but the propriety of its uſe in epilepſy has been diſputed among phyſicians. When the diſeaſe depends upon a plethoric ſtate in which bleeding may be neceſſary, the employment of opium is likely to be very hurtful; but, when there is no plethoric or inflammatory ſtate preſent, and the diſeaſe ſeems to depend upon irritation, or upon increaſed irritability, opium is likely to prove the moſt certain remedy *. Whatever effects in this and other convulſive diſorders, have been attributed to the hyoſcyamus, muſt probably be attributed to its poſſeſſing

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* In thoſe caſes, in which ſome peculiar ſymptoms indicate the approach of the fit, opium taken in a large doſe has ſometimes prevented it altogether; but moſt commonly, however, ſuch a doſe greatly leſſens its violence. Two grains of opium in ſubſtance, or ſixty or ſeventy drops of laudanum, are large doſes.

poſſeſſing a narcotic power ſimilar to that of opium.

1343. With reſpect to the uſe of antiſpaſmodics, it is to be obſerved, that they are always moſt uſeful, and perhaps only uſeful, when employed at a time when epileptic fits are frequently recurring, or near to the times of the acceſſion of fits which recur after conſiderable intervals.

1344. On the ſubject of the cure of epilepſy, I have only to add, that, as the diſeaſe in many caſes is continued by the power of habit only, and that, in all caſes, habit has a great ſhare in increaſing mobility, and therefore in continuing this diſeaſe; ſo the breaking in upon ſuch habit, and changing the whole habits of the ſyſtem, is likely to be a powerful remedy in epilepſy. Accordingly, a conſiderable change of climate, diet, and other circumſtances in the manner of life, has often proved a cure of this diſeaſe *.

1345. After treating of epilepſy, I might here

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* After all that has been ſaid on this diſeaſe, we muſt acknowledge that we know but little of its true nature, and, conſequently, no certain method of cure can be given. It has baffled the ſkill of phyſicians from the earlieſt ages of phyſic, and ſtill remains to be one of thoſe many diſeaſes which we cannot certainly cure.

Some ſpecies of it, indeed, are certainly curable; but theſe are few, and ſuch only as are ſymptomatic, or ariſe from peculiar mechanical irritations.

Experience has moreover ſhown us, that the diſeaſe often exiſts without any apparent irritation, and without any cauſe obſervable on diſſection: Much room is therefore left for future inveſtigations on this dark ſubject; and we muſt at preſent content ourſelves with the hopes that time will unfold what human ingenuity has not yet been capable of effecting.

here treat of particular convulſions, which are to be diſtinguiſhed from epilepſy by their being more partial: That is, affecting certain parts of the body only, and by their not being attended with a loſs of ſenſe, nor ending in ſuch a comatoſe ſtate as epilepſy always does.

1346. Of ſuch convulſive affections many different inſtances have been obſerved and recorded by phyſicians. But many of theſe have been manifeſtly ſympathic affections, to be cured only by curing the primary diſeaſe upon which they depend, and therefore not to be treated of here: Or, though they are ſuch as cannot be referred to another diſeaſe, as many of them, however, have not any ſpecific character with which they occur in different perſons, I muſt therefore leave them to be treated upon the general principles I have laid down with reſpect to epilepſy, or ſhall lay down with reſpect to the following convulſive diſorder, which, as having very conſtantly, in different perſons, a peculiar character, I think neceſſary to treat of more particularly.

CHAP. III.

OF THE

CHOREA,

OR

DANCE OF ST. VITUS.

1347. THIS diſeaſe affects both ſexes, and almoſt only young perſons. It generally happens from the age of ten to that of fourteen years *. It comes

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* I have ſeen it in a robuſt man of forty-two. This patient,

comes on always before the age of puberty, and rarely continues beyond that period.

1348 It is chiefly marked by convulſive motions, ſomewhat varied in different perſons, but nearly of one kind in all; affecting the leg and arm on the ſame ſide, and generally on one ſide only.

1349. Theſe convulſive motions commonly firſt affect the leg and foot. Though the limb be at reſt, the foot is often agitated by convulſive motions, turning it alternately outwards and inwards. When walking is attempted, the affected leg is ſeldom lifted as uſual in walking, but is dragged along as if the whole limb were paralytic; and, when it is attempted to be lifted,

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patient, after various ineffectual remedies had been uſed, was cured by ſtrong electrical ſhocks directed through the whole body.

lifted, this motion is unſteadily performed, the limb becoming agitated by irregular convulſive motions.

1350. The arm of the ſame ſide is generally affected at the ſame time; and, even when no voluntary motion is attempted, the arm is frequently agitated with various convulſive motions. But, eſpecially when voluntary motions are attempted, theſe are not properly executed, but are variouſly hurried or interrupted by convulſive motions in a direction contrary to that intended. The moſt common inſtance of this is in the perſon's attempting to carry a cup of liquor to his mouth, when it is only after repeated efforts, interrupted by frequent convulſive retractions and deviations, that the cup can be carried to the mouth.

1351. It appears to me that the will often yields to theſe convulſive motions, as to a propenſity, and thereby they are often increaſed, while the perſon affected ſeems to be pleaſed with increaſing the ſurpriſe and amuſement which his motions occaſion in the byſtanders.

1352. In this diſeaſe, the mind is often affected with ſome degree of fatuity; and often ſhows the ſame varied, deſultory, and cauſeleſs emotions, which occur in hyſteria.

1353. Theſe are the moſt common circumſtances of this diſeaſe; but, at times, and in different perſons, it is varied by ſome difference in the convulſive motions, particularly by theſe affecting the head and trunk of the body. As in this diſeaſe there ſeem to be propenſities to motion, ſo various fits of leaping and running occur in the perſons affected; and there have been inſtances of this diſeaſe, conſiſting of ſuch convulſive motions, appearing as an epidemic in a certain corner of the country. In ſuch inſtances, perſons of different ages are affected, and may ſeem to make an exception to the general rule above laid down; but ſtill the perſons are, for the moſt part, the young of both ſexes, and of the more manifeſtly moveable conſtitutions.

1354. The method of curing this diſeaſe has been variouſly propoſed. Dr Sydenham propoſed to cure it by alternate bleeding and purging. In ſome plethoric habits I have found ſome bleeding uſeful; but, in many caſes, I have found repeated evacuations, eſpecially by bleeding, very hurtful.

In many caſes, I have found the diſeaſe, in ſpite of remedies of all kinds, continue for many months; but I have alſo found it often readily yield to tonic remedies, ſuch as the Peruvian bark, and chalybeates.

The late Dr De Haen found ſeveral perſons labouring under this diſeaſe cured by the application of electricity.

SECT. II.

OF THE
SPASMODIC AFFECTIONS
OF THE
VITAL FUNCTIONS.

CHAP. IV*.

OF THE
PALPITATION
OF THE
HEART.

1355. THE motion thus named is a contraction or ſyſtole of the heart, that is performed with more rapidity,

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* Though I have thought it proper to divide this book into ſections, I think it neceſſary, for the convenience

dity, and generally alſo with more force than uſual ; and when at the ſame time the heart ſtrikes with more than uſual violence againſt the inſide of the ribs, producing often a conſiderable ſound.

1356. This motion or palpitation is occaſioned by a great variety of cauſes, which have been recited with great pains by Mr Senac, and others ; whom, however, I cannot follow in all the particulars with ſufficient diſcernment, and therefore ſhall here only attempt to refer all the ſeveral caſes of this diſeaſe to a few general heads.

1357. The firſt is of thoſe ariſing from the application of the uſual ſtimulus to the heart's contraction ; that is, the influx of the

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nience of references, to number the chapters from the beginning.—*Author.*

the venous blood into its cavities, being made with more velocity, and therefore, in the ſame time, in greater quantity than uſual. It ſeems to be in this manner that violent exerciſe occaſions palpitation.

1358. A ſecond head of the caſes of palpitation, is of thoſe ariſing from any reſiſtance given to the free and entire evacuation of the ventricles of the heart. Thus, a ligature made upon the aorta occaſions palpitations of the moſt violent kind. Similar reſiſtances, either in the aorta or pulmonary artery, may be readily imagined; and ſuch have been often found in the dead bodies of perſons, who, during life, had been much affected with palpitations.

To this head are to be referred all thoſe caſes of palpitation ariſing from cauſes producing an accumulation of blood in the great veſſels near to the heart.

1359. A third head of the caſes of palpitation, is of thoſe ariſing from a more violent and rapid influx of the nervous power into the muſcular fibres of the heart. It is in this manner that I ſuppoſe various cauſes acting in the brain, and particularly certain emotions of the mind, occaſion palpitation.

1360. A fourth head of the caſes of palpitation, is of thoſe ariſing from cauſes producing a weakneſs in the action of the heart, by diminiſhing the energy of the brain with reſpect to it. That ſuch cauſes operate in producing palpitation, I preſume from hence, that all the ſeveral cauſes mentioned above (1177. *et ſeq.*), as in this manner producing ſyncope, do often produce palpitation. It is on this ground that theſe two diſeaſes are affections frequently occurring in the ſame perſon, as the ſame cauſes may occaſion the one or the other, according to the force of the cauſe and mobility of the perſon acted upon. It ſeems to be a law of the human œconomy, that a degree of debility occurring in any function often produces a more vigorous exertion of the ſame, or at leaſt an effort towards it, and that commonly in a convulſive manner.

I apprehend it to be the convulſive action, frequently ending in ſome degree of a ſpaſm, that gives occaſion to the intermittent pulſe ſo frequently accompanying palpitation.

1361. A fifth head of the caſes of palpitation may perhaps be of thoſe ariſing from a peculiar irritability or mobility of the heart. This, indeed, may be conſidered as a prediſponent cauſe only, giving occaſion to the action of the greater part of the cauſes recited above. But it is proper to obſerve, that this prediſpoſition is often the chief part of the remote cauſe; inſomuch that many of the cauſes producing palpitation would not have this effect but in perſons peculiarly prediſpoſed. This head, therefore, of the caſes of palpitation, often requires to be diſtinguiſhed from all the reſt.

1362. After thus marking the ſeveral caſes and cauſes of palpitation, I think it neceſſary, with a view to the cure of this diſeaſe, to obſerve, that the ſeveral cauſes of it may be again reduced to two heads. The firſt is, of thoſe conſiſting in, or depending upon, certain organic affections of the heart itſelf, or of the great veſſels immediately connected with it. The ſecond is of thoſe conſiſting in, or depending upon, certain affections ſubſiſting and acting in other parts of the body, and acting either by the force of the cauſe, or in conſequence of the mobility of the heart.

1363. With reſpect to the caſes depending upon the firſt ſet of cauſes, I muſt repeat here what I ſaid with reſpect to the like caſes of ſyncope, that I do not know any means of curing them. They, indeed, admit of ſome palliation, *firſt*, by avoiding every circumſtance that may hurry the circulation of the blood; and, *ſecondly*, by every means of avoiding a plethoric ſtate of the ſyſtem, or any occaſional turgeſcence of the blood. In many of theſe caſes, blood-letting may give a temporary relief: but, in ſo far as debility and mobility are concerned, in ſuch caſes this remedy is likely to do harm.

1364. With reſpect to the caſes depending upon the other ſet of cauſes, they may be various, and require very different meaſures: But I can here ſay in general, that theſe caſes may be conſidered as of two kinds; one depending upon primary affections in other parts of the body, and acting by the force of the particular cauſes; and another depending upon a ſtate of mobility in the heart itſelf. In the firſt of theſe, it is obvious that the cure of palpitation muſt be obtained by curing the primary affection; which is not to be treated of here. In the ſecond, the cure muſt be obtained, partly by diligently avoiding the occaſional cauſes, partly and chiefly by correcting the mobility of the ſyſtem, and of the heart in particular; for doing which we have treated of the proper means elſewhere.

CHAP. V.

OF

DYSPNŒA,

OR

DIFFICULT BREATHING.

1365. THE exerciſe of reſpiration, and the organs of it, have ſo conſtant and conſiderable a connection with almoſt the whole of the other functions and parts of the human body, that upon almoſt every occaſion of diſeaſe, reſpiration muſt be affected. Accordingly, ſome difficulty and diſorder in this function are in fact ſymptoms very generally accompanying diſeaſe.

1366. Upon this account, the ſymptom of difficult breathing deſerves a chief place, and an ample conſideration, in the general ſyſtem of Pathology; but what ſhare of conſideration it ought to have in a treatiſe of Practice, I find it difficult to determine.

1367. On this ſubject, it is, in the firſt place, neceſſary to diſtinguiſh between the ſymptomatic and idiopathic affections; that is, between thoſe difficulties of breathing which are ſymptoms only of a more general affection, or of a diſeaſe ſubſiſting primarily in other parts than the organs of reſpiration, and that difficulty of breathing which depends upon a primary affection of the lungs themſelves. The various caſes of ſymptomatic dyſpnœa I have taken pains to enumerate in my Methodical Noſology; and it will be obvious they are ſuch as cannot be taken notice of here.

1368. In my Noſology I have alſo taken pains to point out and enumerate the proper, or at leaſt the greater part of the proper, idiopathic caſes of the dyſpnœa; but, from that enumeration, it will, I think, readily appear, that few, and indeed hardly any, of theſe caſes, will admit or require much of our notice in this place.

1369. The Dyſpnœa *Sicca* *, *ſpecies 2d*, the Dyſpnœa *Aërea* †, *ſp. 3d*, the Dyſpnœa *Terrea*,

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* The definition, which the Author gives of this ſpecies in his Noſology, is, *Dyſpnœa cum tuſſi plerumque ſicca.* It ariſes from various cauſes, ſome of which are extremely difficult, if not impoſſible, to be diſcovered.

† The definition of this ſpecies is, *Dyſpnœa a minima quavis tempeſtatum mutatione aucta.*

Terrea [*], *ſp. 4th*, and Dyſpnœa *Thoracica* [†], *ſp. 7th*, are ſome of them with difficulty known, and are all of them diſeaſes which, in my opinion, do not admit of cure. All, therefore, that can be ſaid concerning them here is, that they may admit of ſome palliation; and this, I think, is to be obtained chiefly by avoiding a plethoric ſtate of the lungs [‡], and every circumſtance that may hurry reſpiration.

1370. Of the Dyſpnœa *Extrinſeca* [§],

ſp.

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[*] It is defined *Dyſpnœa cum tuſſi materiem terream vel calculoſam ejiciente.* This is ſometimes the expulſion of a gouty matter.

[†] The definition of this ſpecies is, *Dyſpnœa a partibus thoracem cingentibus laeſis, vel male conformatis.*

[‡] This intention is moſt ſpeedily obtained by occaſional bleeding.

[§] It is defined *Dyſpnœa a cauſis externis manifeſtis.*

Theſe

ſp. 8th, I can ſay no more, but that theſe external cauſes marked in the Noſology, and perhaps ſome others that might have like effects, are to be carefully avoided; or, when they have been applied, and their effects have taken place, the diſeaſe is to be palliated by the means mentioned in the laſt paragraph.

1371. The other ſpecies, though enumerated as idiopathic, can hardly be conſidered as ſuch, or as requiring to be treated of here.

The Dyſpnœa *Catarrhalis**, *ſp. 1ſt*, may be conſidered as a ſpecies of catarrh, and is

pretty

Theſe cauſes are various, as expoſure to duſts of different kinds, to metallic fumes, to vitiated air, to vapours of different kinds, &c.

* It is defined, *Dyſpnœa cum tuſſi frequente mucum viſcidum copioſum ejiciente.*

pretty certainly to be cured by the ſame remedies as that ſpecies of catarrh which depends rather upon the increaſed afflux of mucus to the bronchiæ, than upon any inflammatory ſtate in them *.

The Dyſpnœa *Aquoſa* †, *ſp. 5th*, is certainly to be conſidered as a ſpecies of dropſy, and is to be treated by the ſame remedies as the other ſpecies of that diſeaſe.

The Dyſpnœa *Pinguedinoſa* ‡, *ſp. 6th*, is in like manner to be conſidered as a ſymptom or local effect of the Polyſarcia, and is only

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* The remedies for this purpoſe are, emetics, ſudorifics, and expectorants; formulæ of which may be ſeen in the notes on Article 1066.

† It is defined, *Dyſpnœa cum urina parca, et œdemate pedum, ſine fluctuatione in pectore, vel aliis characteriſticis hydrothoracis ſignis.*

‡ It is defined, *Dyſpnœa in hominibus valde obeſis.*

only to be cured by correcting the general fault of the ſyſtem *.

1372. From this view of thoſe idiopathic caſes of dyſpnœa, which are perhaps all I could properly arrange under this title, it will readily appear that there is little room for treating of them here: But there is ſtill one caſe of difficult breathing, which has been properly diſtinguiſhed from every other under the title of *Aſthma*; and, as it deſerves our particular attention, I ſhall here ſeparately conſider it.

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* A low diet, ſufficient exerciſe, ſweating, and briſk purges, will ſoon have the deſired effect; and the diſeaſe may be prevented by abſtemious living.

CHAP. VI.

OF

ASTHMA.

1373. THE term of Aſthma has been commonly applied by the vulgar, and even by many writers on the Practice of Phyſic, to every caſe of difficult breathing, that is, to every ſpecies of Dyſpnœa.

pnœa. The Methodical Noſologiſts, alſo, have diſtinguiſhed Aſthma from Dyſpnœa chiefly, and almoſt ſolely, by the former being the ſame affection with the latter, but in a higher degree. Neither of theſe applications of the term ſeems to have been correct or proper. I am of opinion, that the term Aſthma may be moſt properly applied, and ſhould be confined to a caſe of difficult breathing that has peculiar ſymptoms, and depends upon a peculiar proximate cauſe, which I hope to aſſign with ſufficient certainty. It is this diſeaſe I am now to treat of, and it is nearly what Practical Writers have generally diſtinguiſhed from the other caſes of difficult breathing, by the title of Spaſmodic Aſthma, or of *Aſthma convulſivum*; although, by not diſtinguiſhing it with ſufficient accuracy from the other caſes of Dyſpnœa, they have introduced a great deal of confuſion into their treatiſes on this ſubject.

1374.

1374. The diſeaſe I am to treat of, or the Aſthma to be ſtrictly ſo called, is often a hereditary diſeaſe. It * ſeldom appears very early in life, and hardly till the time of puberty, or after it. It affects both ſexes, but moſt frequently the male. I have not obſerved it to be more frequent in one kind of temperament than in another; and it does not ſeem to depend upon any general temperament of the whole body, but upon a particular conſtitution of the lungs alone. It frequently attacks perſons of a full habit; but it hardly ever continues to be repeated for ſome length of time without occaſioning an emaciation of the whole body.

1375. The attacks of this diſeaſe are generally in the night-time, or towards the approach

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* This deſcription of the diſeaſe under conſideration is excellent.

approach of night; but there are alſo ſome inſtances of their coming on in the courſe of the day. At whatever time they come on, it is for the moſt part ſuddenly, with a ſenſe of tightneſs and ſtricture acroſs the breaſt, and a ſenſe of ſtraitneſs in the lungs impeding inſpiration. The perſon thus attacked, if in a horizontal ſituation, is immediately obliged to get into ſomewhat of an erect poſture, and requires a free and cool air. The difficulty of breathing goes on for ſome time increaſing; and both inſpiration and exſpiration are performed ſlowly, and with a wheezing noiſe. In violent fits, ſpeaking is difficult and uneaſy. There is often ſome propenſity to coughing, but it can hardly be executed.

1376. Theſe ſymptoms often continue for many hours together, and particularly from midnight till the morning is far advanced. Then commonly a remiſſion takes place by degrees; the breathing becomes leſs laborious and more full, ſo that the perſon can ſpeak and cough with more eaſe; and, if the cough brings up ſome mucus, the remiſſion becomes immediately more conſiderable, and the perſon falls into a much wiſhed-for ſleep.

1377. During theſe fits the pulſe often continues in its natural ſtate; but in ſome perſons the fits are attended with a frequency of pulſe, and with ſome heat and thirſt, as marks of ſome degree of fever. If urine be voided at the beginning of a fit, it is commonly in conſiderable quantity, and with little colour or odour; but, after the fit is over, the urine voided is in the ordinary quantity, of a high colour, and ſometimes depoſites a ſediment. In ſome perſons, during the fit, the face is a little fluſhed and turgid; but more commonly it is ſomewhat pale and ſhrunk.

1378. After ſome ſleep in the morning,

the patient, for the reſt of the day, continues to have more free and eaſy breathing, but it is ſeldom entirely ſuch. He ſtill feels ſome tightneſs acroſs his breaſt, cannot breathe eaſily in a horizontal poſture, and can hardly bear any motion of his body, without having his breathing rendered more difficult and uneaſy. In the afternoon, he has an unuſual flatulency of his ſtomach, and an unuſual drowſineſs; and, very frequently, theſe ſymptoms precede the firſt attacks of the diſeaſe; but, whether theſe ſymptoms appear or not, the difficulty of breathing returns towards the evening; and then ſometimes gradually increaſes, till it becomes as violent as in the night before: Or if, during the day, the difficulty of breathing has been moderate, and the perſon got ſome ſleep in the firſt part of the night, he is, however, waked about midnight, or at ſome time between midnight and two o'clock in the morning; and is then ſuddenly ſeized with a fit of difficult breathing, which runs the ſame courſe as the night before.

1379. In this manner fits return for ſeveral nights ſucceſſively; but generally, after ſome nights paſſed in this way, the fits ſuffer more conſiderable remiſſions. This eſpecially happens when the remiſſions are attended with a more copious expectoration in the mornings; and that this continues from time to time throughout the day. In theſe circumſtances, aſthmatics, for a long time after, have not only more eaſy days, but enjoy alſo nights of entire ſleep, without the recurrence of the diſeaſe.

1380. When this diſeaſe, however, has once taken place in the manner above deſcribed, it is ready to return at times for the whole of life after. Theſe returns, however, happen with different circumſtances in different perſons.

1381. In ſome perſons the fits are readily excited by external heat, whether of the weather, or of a warm chamber, and particularly by warm bathing. In ſuch perſons, fits are more frequent in ſummer, and particularly during the dog-days, than at other colder ſeaſons. The ſame perſons are alſo readily affected by changes of the weather; eſpecially by ſudden changes made from a colder to a warmer, or, what is commonly the ſame thing, from a heavier to a lighter atmoſphere. The ſame perſons are alſo affected by every circumſtance threatening the capacity of the thorax, as by any ligature made, or even by a plaſter laid, upon it; and a like effect happens from any increaſed bulk of the ſtomach, either by a full meal, or by air collected in it. They are likewiſe much affected by exerciſe, or what ever elſe can hurry the circulation of the blood.

1382. As aſthmatic fits ſeem thus to depend upon ſome fulneſs of the veſſels of the lungs, it is probable that an obſtruction of perſpiration, and the blood being leſs determined to the ſurface of the body, may favour an accumulation in the lungs, and thereby be a means of exciting aſthma. This ſeems to be the caſe of thoſe aſthmatics who have fits moſt frequently in the winter-ſeaſon, and who have commonly more of a catarrhal affection accompanying the aſthma; which therefore occurs more frequently in winter, and more manifeſtly from the application of cold.

1383. Beſide theſe caſes of aſthma excited by heat or cold, there are others, in which the fits are eſpecially excited by powers applied to the nervous ſyſtem; as, by paſſions of the mind, by particular odours, and by irritations of ſmoke and duſt.

That this diſeaſe is an affection of the nervous ſyſtem, and depending upon a mobility of the moving fibres of the lungs, appears pretty clearly from its being frequently connected with other ſpaſmodic affections depending upon mobility; ſuch as hyſteria, hypochondriaſis, dyſpepſia, and atonic gout.

1384. From the whole of the hiſtory of aſthma now delivered, I think it will readily appear that the proximate cauſe of this diſeaſe is a preternatural, and in ſome meaſure a ſpaſmodic, conſtriction of the muſcular fibres of the bronchiæ; which not only prevents the dilatation of the bronchiæ neceſſary to a free and full inſpiration, but gives alſo a rigidity which prevents a full and free exſpiration. This preternatural conſtriction, like many other convulſive and ſpaſmodic affections, is readily excited by a turgeſcence of the blood, or other cauſe of any unuſual fulneſs and diſtention of the veſſels of the lungs.

1385. This diſeaſe, as coming by fits, may be generally diſtinguiſhed from moſt other ſpecies of dyſpnœa, whoſe cauſes being more conſtantly applied, produce therefore a more conſtant difficulty of breathing. There may, however, be ſome fallacy in this matter, as ſome of theſe cauſes may be liable to have abatements and intenſities, whereby the dyſpnœa produced by them may ſeem to come by fits; but I believe it is ſeldom that ſuch fits put on the appearance of the genuine aſthmatic fits deſcribed above. Perhaps, however, there is ſtill another caſe that may give more difficulty; and that is, when ſeveral of the cauſes, which we have aſſigned as cauſes of ſeveral of the ſpecies of difficult breathing referred to the genus of Dyſpnœa, may have the effect of exciting a genuine aſthmatic fit. Whether this can happen to any but the peculiarly prediſpoſed to aſthma, I am uncertain; and therefore, whether, in any ſuch caſes, the aſthma may be conſidered as ſymptomatic; or if, in all ſuch caſes, the aſthma may not ſtill be conſidered and treated as an idiopathic diſeaſe.

1386. The aſthma, though often threatening immediate death, ſeldom occaſions it; and many perſons have lived long under this diſeaſe. In many caſes, however, it does prove fatal; ſometimes very quickly, and perhaps always at length. In ſome young perſons it has ended ſoon, by occaſioning a phthiſis pulmonalis. After a long continuance, it often ends in a hydrothorax; and commonly, by occaſioning ſome aneuriſm of the heart or great veſſels, it thereby proves fatal.

1387. As it is ſeldom that an aſthma has been entirely cured; I therefore cannot propoſe any method of cure which experience has approved as generally ſucceſsful. But the diſeaſe admits of alleviation in ſeveral reſpects from the uſe of remedies; and my buſineſs now ſhall be chiefly to offer ſome remarks upon the choice and uſe of the remedies which have been commonly employed in caſes of aſthma.

1388. As the danger of an aſthmatic fit ariſes chiefly from the difficult tranſmiſſion of the blood through the veſſels of the lungs, threatening ſuffocation; ſo the moſt probable means of obviating this ſeems to be blood-letting: and therefore, in all violent fits, practitioners have had recourſe to this remedy. In firſt attacks, and eſpecially in young and plethoric perſons, blood-letting may be very neceſſary, and is commonly allowable. But it is alſo evident, that, under the frequent recurrence of fits, blood-letting cannot be frequently repeated without exhauſting and weakening the patient too much. It is further to be obſerved, that blood-letting is not ſo neceſſary as might be imagined, as the paſſage of the blood through the lungs is not ſo much interrupted as has been commonly ſuppoſed. This I particularly conclude from hence, that, inſtead of the ſuffuſion of face, which is the uſual effect of ſuch interruption, the face, in aſthmatic fits, is often ſhrunk and pale. I conclude the ſame alſo from this, that, in aſthmatic fits, blood-letting does not commonly give ſo much relief as, upon the contrary ſuppoſition, might be expected.

1389. As I have alleged above, that a turgeſcence of the blood is frequently the exciting cauſe of aſthmatic fits, ſo it might be ſuppoſed, that a plethoric ſtate of the ſyſtem might have a great ſhare in producing a turgeſcence of the blood in the lungs; and eſpecially, therefore, that blood-letting might be a proper remedy in aſthma.

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I allow it to be ſo in the firſt attacks of the diſeaſe: But, as the diſeaſe, by continuing, generally takes off the plethoric ſtate of the ſyſtem; ſo, after the diſeaſe has continued for ſome time, I allege that blood-letting becomes leſs and leſs neceſſary.

1390. Upon the ſuppoſition of aſthmatics being in a plethoric ſtate, purging might be ſuppoſed to prove a remedy in this diſeaſe: But, both becauſe the ſuppoſition is not commonly well founded, and becauſe purging is ſeldom found to relieve the veſſels of the thorax, this remedy has not appeared to be well ſuited to aſthmatics; and large purging has always been found to do much harm. But, as aſthmatics are always hurt by the ſtagnation and accumulation of matters in the alimentary canal, ſo coſtiveneſs muſt be avoided, and an open belly proves uſeful. In the time of fits, the employment of emollient and moderately laxative glyſters *, has been found to give conſiderable relief.

1391. As a flatulency of the ſtomach, and other ſymptoms of indigeſtion, are frequent attendants of aſthma, and very troubleſome to aſthmatics ; ſo, both for removing theſe ſymptoms, and for taking off all determination to the lungs, the frequent uſe of gentle vomits † is proper in this diſeaſe.

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* A glyſter of milk, with a little ſalt, is generally ſufficient.

The coſtiveneſs may be removed by mucilaginous laxatives of the milder kind, as manna, caſſia, &c. or by a proper attention to diet, eſpecially by uſing the pulps of particular fruits, as prunes or raiſins boiled in barley-water; roaſted apples eaten with brown ſugar, &c.

† Vomits ought, in theſe caſes, to be mild. Some formulæ of them are given in one of the notes on article 185.

eaſe. In certain caſes, where a fit was expected to come on in the courſe of the night, a vomit given in the evening has frequently ſeemed to prevent it.

1392. Bliſtering between the ſhoulders, or upon the breaſt, has been frequently employed to relieve aſthmatics; but, in the pure ſpaſmodic aſthma we treat of here, I have rarely found bliſters uſeful, either in preventing or relieving fits.

1393. Iſſues are certainly uſeful in obviating plethora; but, as ſuch indications ſeldom ariſe in caſes of aſthma, ſo iſſues have been ſeldom found uſeful in this diſeaſe.

1394. As aſthmatic fits are ſo frequently excited by a turgeſcence of the blood, ſo the obviating and allaying of this by acids and neutral ſalts, ſeems to have been at all times the object of practitioners. See FLOYER *on the Aſthma.*

1395. Although a plethoric ſtate of the ſyſtem may ſeem to diſpoſe to aſthma, and the occaſional turgeſcence of the blood may ſeem to be frequently the exciting cauſe of the fits; yet it is evident, that the diſeaſe muſt have ariſen chiefly from a peculiar conſtitution in the moving fibres of the bronchiæ, diſpoſing them upon various occaſions to fall into a ſpaſmodic conſtriction; and therefore, that the entire cure of the diſeaſe can only be expected from the correcting of that prediſpoſition, or from correcting the preternatural mobility or irritability of the lungs in that reſpect.

1396. In caſes wherein this prediſpoſition depends upon original conformation, the cure muſt be difficult, and perhaps impoſſible; but it may perhaps be moderated by the uſe of antiſpaſmodics. Upon this footing, various remedies of that kind have been commonly employed, and particularly the fetid gums; but we have not found them of any conſiderable efficacy, and have obſerved them to be ſometimes hurtful by their heating too much. Some other antiſpaſmodics which might be ſuppoſed powerful, ſuch as muſk, have not been properly tried. The vitriolic ether has been found to give relief, but its effects are not laſting.

1397. As in other ſpaſmodic affections, ſo in this, the moſt certain and powerful antiſpaſmodic is opium *. I have often found

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* The great efficacy of opium, in caſes of ſpaſmodic aſthma, is fully confirmed by experience. It ought to be given in large doſes, but not often repeated in the day. It ſeems to be moſt uſeful when given occaſionally to allay the violence of the fit, or to prevent its acceſſion.

found it effectual, and generally ſafe ; and, if there have ariſen doubts with reſpect to its ſafety, I believe they have ariſen from not diſtinguiſhing between certain plethoric and inflammatory caſes of dyſpnœa, improperly named Aſthma, and the genuine ſpaſmodic aſthma we treat of here.

1398. As in many caſes this diſeaſe depends upon a prediſpoſition which cannot be corrected by our art, ſo in ſuch caſes the patient can only eſcape the diſeaſe by avoiding the occaſional or exciting cauſes, which I have endeavoured to point out above. It is, however, difficult to give any general rules here, as different aſthmatics have their different idioſyncraſies with reſpect

acceſſion. Thus, forty drops of laudanum have been frequently found to relieve the ſymptoms when the fit is violent ; or, when taken at the approach of the fit, to have wholly ſuppreſſed it, or at leaſt to have conſiderably blunted its violence.

ſpect to externals. Thus, one aſthmatic finds himſelf eaſieſt living in the midſt of a great city, while another cannot breathe but in the free air of the country. In the latter caſe, however, moſt aſthmatics bear the air of a low ground, if tolerably free and dry, better than that of the mountain.

1399. In diet, alſo, there is ſome difference to be made with reſpect to different aſthmatics. None of them bear a large or full meal, or any food that is of ſlow and difficult ſolution in the ſtomach; but many of them bear animal-food of the lighter kinds, and in moderate quantity. The uſe of vegetables which readily prove flatulent, are always very hurtful. In recent aſthma, and eſpecially in the young and plethoric, a ſpare, light, and cool diet is proper, and commonly neceſſary; but, after the diſeaſe has continued for years, aſthmatics commonly bear, and even require, a tolerably full diet, though, in all caſes, a very full diet is very hurtful.

1400. In drinking, water, or cool watery liquors, are the only ſafe and fit drinks for aſthmatics; and all liquors ready to ferment and become flatulent, are hurtful to them. Few aſthmatics can bear any kind of ſtrong drink; and any exceſs in ſuch is always very hurtful to them. As aſthmatics are commonly hurt by taking warm or tepid drink; ſo, both upon that account, and upon account of the liquors weakening the nerves of the ſtomach, neither tea nor coffee is proper in this diſeaſe.

1401. Aſthmatics commonly bear no bodily motion eaſily but that of the moſt gentle kind. Riding, however, on horſeback,

back, or going in a carriage, and eſpecially ſailing, are very often uſeful to aſthmatics.

CHAP.

CHAP. VII.

OF THE

CHINCOUGH,

OR

HOOPING-COUGH.

1402. THIS diſeaſe is commonly epidemic, and manifeſtly contagious. It ſeems to proceed from a contagion of a ſpecific nature, and of a ſingular quality. It does not, like moſt other contagions, neceſſarily produce a fever; nor does it, like moſt others, occaſion any eruption, or produce otherwiſe any evident change in the ſtate of the human fluids. It has, in common with the catarrhal contagion, and with that of the meaſles, a peculiar determination to the lungs; but with particular effects there, very different from thoſe of the other two; as will appear from the hiſtory of this diſeaſe now to be delivered.

1403. This contagion, like ſeveral others, affects perſons but once in the courſe of their lives; and therefore, neceſſarily, children are moſt commonly the ſubjects of this diſeaſe: But there are many inſtances of it occurring in perſons conſiderably advanced in life; though it is probable, that the further that perſons are advanced in life, they are the leſs liable to be affected with this contagion.

1404. The diſeaſe commonly comes on

with the ordinary ſymptoms of a catarrh ariſing from cold; and often, for many days, keeps entirely to that appearance; and I have had inſtances of a diſeaſe which, though evidently ariſing from the chincough contagion, never put on any other form than that of a common catarrh.

This, however, ſeldom happens; for, generally in the ſecond, and at fartheſt in the third week after the attack, the diſeaſe puts on its peculiar and characteriſtic ſymptoms, a convulſive cough. This is a cough in which the exſpiratory motions peculiar to coughing are made with more frequency, rapidity, and violence, than uſual. As theſe circumſtances, however, in different inſtances of coughing, are in very different degrees; ſo no exact limits can be put to determine when the cough can be ſtrictly ſaid to be convulſive; and it is therefore eſpecially by another circumſtance that the chincough is diſtinguiſhed from every other form of cough. This circumſtance is, when many exſpiratory motions have been convulſively made, and thereby the air is in great quantity thrown out of the lungs, a full inſpiration is neceſſarily and ſuddenly made; which, by the air ruſhing in through the glottis with unuſual velocity, gives a peculiar ſound. This ſound is ſomewhat different in different caſes, but is in general called a Hoop; and from it the whole of the diſeaſe is called the Hooping Cough. When this ſonorous inſpiration has happened, the convulſive coughing is again renewed, and continues in the ſame manner as before, till a quantity of mucus is thrown up from the lungs, or the contents of the ſtomach are thrown up by vomiting. Either of theſe evacuations commonly puts an end to the coughing, and the patient remains free from it for ſome time after. Sometimes it is only after ſeveral alternate fits of coughing and hooping that expectoration or vomiting takes place; but it is commonly after the ſecond coughing that theſe happen, and put an end to the fit.

1405. When the diſeaſe, in this manner, has taken its proper form, it generally continues for a long time after, and generally from one month to three; but ſometimes much longer, and that with very various circumſtances.

1406. The fits of coughing return at various intervals, rarely obſerving any exact period. They happen frequently in the courſe of the day, and more frequently ſtill in the courſe of the night. The patient has commonly ſome warning of their coming on; and, to avoid that violent and painful concuſſion which the coughing gives to the whole body, he clings faſt to any thing that is near to him, or demands to be held faſt by any perſon that he can come at.

When the fit is over, the patient ſometimes breathes faſt, and ſeems fatigued for a little after: But in many this appears very little; and children are commonly ſo entirely relieved, that they immediately return to their play, or what elſe they were occupied in before.

1407. If it happens that the fit of coughing ends in vomiting up the contents of the ſtomach, the patient is commonly immediately after ſeized with a ſtrong craving and demand for food, and takes it in very greedily.

1408. At the firſt coming on of this diſeaſe, the expectoration is ſometimes none at all, or of a thin mucus only; and, while this continues to be the caſe, the fits of coughing are more violent, and continue longer: But commonly the expectoration ſoon becomes conſiderable, and a very thick mucus, often in great quantity, is thrown up; and, as this is more readily brought up, the fits of coughing are of ſhorter duration.

1409. The violent fits of coughing frequently interrupt the free tranſmiſſion of the blood through the lungs, and thereby the free return of blood from the veſſels of the head. This occaſions that turgeſcence and ſuffuſion of face which commonly attends the fits of coughing, and ſeems to occaſion alſo thoſe eruptions of blood from the noſe, and even from the eyes and ears, which ſometimes happen in this diſeaſe.

1410. This diſeaſe often takes place in the manner we have now deſcribed, without any pyrexia attending it; but, though Sydenham had ſeldom obſerved it, we have found the diſeaſe very frequently accompanied with pyrexia, ſometimes from the very beginning, but more frequently only after the diſeaſe had continued for ſome time. When it does accompany the diſeaſe, we have not found it appearing under any regular intermittent form. It is conſtantly in ſome degree preſent; but with evident exacerbations towards evening, continuing till next morning.

1411. Another ſymptom very frequently attending the chincough, is a difficulty of breathing; and that not only immediately before and after fits of coughing, but as conſtantly preſent, though in different degrees in different perſons. I have hardly ever ſeen an inſtance of a fatal chincough, in which a conſiderable degree of pyrexia and dyſpnœa had not been for ſome time conſtantly preſent.

1412. When, by the power of the contagion, this diſeaſe has once taken place, the fits of coughing are often repeated, without any evident exciting cauſe: But, in many caſes, the contagion may be conſidered as giving a prediſpoſition only; and the frequency of fits depends in ſome meaſure upon various exciting cauſes; ſuch as, violent exerciſe; a full meal; the having taken in food of difficult ſolution; irritation of the lungs by duſt, ſmoke, or diſagreeable odours of a ſtrong kind; and, eſpecially any conſiderable emotion of the mind.

1413. Such are the chief circumſtances of this diſeaſe, and it is of various event; which, however, may be commonly foreſeen by attending to the following conſiderations.

The younger that children are, they are in the greater danger from this diſeaſe;

and of thoſe to whom it proves fatal, there are many more under two years old than above it.

The older that children are, they are the more ſecure againſt an unhappy event; and this I hold to be a very general rule, though I own there are many exceptions to it.

Children born of phthiſical and aſthmatic parents are in the greateſt danger from this diſeaſe.

When the diſeaſe, beginning in the form of a catarrh, is attended with fever and difficult breathing, and with little expectoration, it often proves fatal, without taking on the form of the hooping cough; but, in moſt of ſuch caſes, the coming on of the convulſive cough and hooping, bringing on at the ſame time a more free expectoration, generally removes the danger.

When the diſeaſe is fully formed, if the fits are neither frequent nor violent, with moderate expectoration, and the patient, during the intervals of the fits, is eaſy, keeps his appetite, gets ſleep, and is without fever or difficult breathing, the diſeaſe is attended with no danger ; and theſe circumſtances becoming daily more favourable, the diſeaſe very ſoon ſpontaneouſly terminates.

An expectoration, either very ſcanty or very copious, is attended with danger ; eſpecially if the latter circumſtances is attended with great difficulty of breathing.

Thoſe caſes in which the fits terminate by a vomiting, and are immediately followed by a craving of food, are generally without danger.

A moderate hemorrhagy from the noſe often proves ſalutary ; but very large hemorrhagies are generally very hurtful.

This diſeaſe coming upon perſons under a ſtate of much debility, has very generally an unhappy event.

The danger of this diſeaſe ſometimes ariſes from the violence of the fits of coughing, occaſioning apoplexy, epilepſy, or immediate ſuffocation: But theſe accidents are very rare; and the danger of the diſeaſe ſeems generally to be in proportion to the fever and dyſpnœa attending it.

1414. The cure of this diſeaſe has been always conſidered as difficult, whether the purpoſe be to obviate its fatal tendency when it is violent, or merely to ſhorten the courſe of it when it is mild. When the contagion is recent, and continues to act, we neither know how to correct, nor how to expel it; and therefore the diſeaſe neceſſarily continues for ſome time: But it is probable that the contagion, in this, as in other inſtances, ceaſes at length to act; and that then the diſeaſe continues, as in other convulſive affections, by the power of habit alone.

1415. From this view of the matter, I maintain, that the practice muſt be different, and adapted to two different indications, according to the period of the diſeaſe. At the beginning of the diſeaſe, and for ſome time after, the remedies to be employed muſt be ſuch as may obviate the violent effects of the diſeaſe, and the fatal tendency of it; but, after the diſeaſe has continued for ſome time, and is without any violent ſymptoms, the only remedies which can be required are thoſe which may interrupt its courſe, and put an entire ſtop to it ſooner than it would have ſpontaneouſly ceaſed.

1416. For anſwering the firſt indication. In plethoric ſubjects, or in others, when, from the circumſtances of the cough and fits, it appears that the blood is difficultly tranſmitted through the lungs, blood-letting * is a neceſſary remedy ; and it may be even neceſſary to repeat it, eſpecially in the beginning of the diſeaſe : But, as ſpaſmodic affections do not commonly admit of much bleeding, ſo it is ſeldom proper in the chincough to repeat this remedy often.

1417. As coſtiveneſs frequently attends this diſeaſe, ſo it is neceſſary to obviate or remove it by laxatives employed ; and keeping an open belly is generally uſeful : But large evacuations in this way are commonly hurtful †.

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* Bleeding, in theſe caſes, is beſt performed by leeches ; and they ſeem to give greater relief when applied about the neck than on any other part.

† In general, the belly may be kept open by a pro-

1418. To obviate or remove the inflammatory determination to the lungs that ſometimes occurs in this diſeaſe, bliſtering is often uſeful, and even repeated bliſtering has been of ſervice; but iſſues have not ſo much effect, and ſhould by no means ſuperſede the repeated bliſtering that may be indicated. When bliſters are proper, they are more effectual when applied to the thorax, than when applied to any diſtant parts.

1419. Of all other remedies, emetics are the moſt uſeful in this diſeaſe; both in general by interrupting the return of ſpaſmodic affections, and in particular by determining very powerfully to the ſurface of the

per attention to diet: Roaſted apples, eaten with brown ſugar, ſtewed prunes, and other ſimilar food, which children generally devour with avidity, ſufficiently anſwer the purpoſe of removing or preventing coſtiveneſs.

the body, and thereby taking off determinations to the lungs. For theſe purpoſes, I think, full vomiting is frequently to be employed; and, in the intervals neceſſary to be left between the times of full vomiting, nauſeating doſes of the antimonial emetics may be uſeful *. I have never found

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* The method of giving tartar emetic in nauſeating doſes has been frequently mentioned in preceding notes; but, in caſes of chincough, where children are generally our patients, we are under the neceſſity of varying the doſes to the age and conſtitution. When the child is under a year old, we ought to uſe the weak ſolution of tartar emetic ſpecified in the end of the laſt note on article 185. in repeated doſes of a table-ſpoonful every ten or fifteen minutes, till it operates. Large doſes, eſpecially to young children, are frequently attended with dangerous conſequences, of which the following caſe is a ſufficient proof.

To a child of ten months old, that laboured under the chincough, half a grain of tartar emetic was given in a little cinnamon water. A violent vomiting found the *ſulphur auratum*, ſo much praiſed by Cloſſius, to be a convenient medicine, on account of the uncertainty of its doſe; and the tartar emetic, employed in the manner directed by the late Dr Fothergill, has appeared to be more uſeful.

1420. Theſe are the remedies to be employed in the firſt ſtage of the diſeaſe for obviating its fatal tendency, and putting it into a ſafe train. But, in the ſecond ſtage, when I ſuppoſe the contagion has ceaſed to act, and that the diſeaſe continues merely by the power of habit, a different indication ariſes, and different remedies are to be employed.

1421.

miting was produced, and the child died ſuddenly, during the action of the medicine. On inſpecting the body after death, we found the ſtomach burſt, there being in it a laceration that admitted two fingers. The inſpection of this body has made me always extremely cautious in adminiſtering emetics to young children.

1421. This diſeaſe, which often continues for a long time, does not, in my opinion, continue during the whole of that time in conſequence of the contagion's remaining in the body, and continuing to act in it. That the diſeaſe does often continue long after the contagion has ceaſed to act, and that too by the power of habit alone, appears to me probable from hence, that terror has frequently cured the diſeaſe; that any conſiderable change in the ſtate of the ſyſtem, ſuch as the coming on of the ſmall-pox, has alſo cured it; and, laſtly, that it has been cured by antiſpaſmodic and tonic medicines; whilſt none of all theſe means of cure can be ſuppoſed either to correct or to expel a morbific matter, though they are evidently ſuited to change the ſtate and habits of the nervous ſyſtem.

1422. From this view we are directed to the indication that may be formed, and in a great meaſure to the remedies which may be employed in what we ſuppoſe to be the ſecond ſtage of the diſeaſe. It may perhaps be alleged, that this indication of ſhortening the courſe of the diſeaſe is not very important or neceſſary, as it ſuppoſes that the violence or danger is over, and, in conſequence, that the diſeaſe will ſoon ſpontaneouſly ceaſe. The laſt ſuppoſition, however, is not well founded; as the diſeaſe, like many other convulſive and ſpaſmodic affections, may continue for a long time by the power of habit alone, and by the repetition of paroxyſms may have hurtful effects; more eſpecially as the violence of paroxyſms, and therefore their hurtful effects, may be much aggravated by various external cauſes that may be accidentally applied. Our indication, therefore, is proper; and we proceed to conſider the ſeveral remedies which may be employed to anſwer it.

1423. Terror may poſſibly be a powerful remedy, but it is difficult to meaſure the degree of it that ſhall be produced; and, as a ſlight degree of it may be ineffectual, and a high degree of it dangerous, I cannot propoſe to employ it.

1424. The other remedies which we ſuppoſe ſuited to our ſecond indication, and which indeed have been frequently employed in this diſeaſe, are antiſpaſmodics or tonics.

Of the antiſpaſmodics, caſtor has been particularly recommended by Dr Morris; but, in many trials, we have not found it effectual.

With more probability muſk has been employed: But, whether it be from our not having it of a genuine kind, or not employing it in ſufficiently large doſes, I cannot determine; but we have not found it commonly ſucceſsful. Of antiſpaſmodics,

dics, the moſt certainly powerful is opium: And, where there is no conſiderable fever or difficulty of breathing preſent, opium has often proved uſeful in moderating the violence of the chincough; but I have not known it employed ſo as entirely to cure the diſeaſe.

If hemlock has proved a remedy in this diſeaſe, as we muſt believe from Dr. Butter's accounts, I agree with that author, that it is to be conſidered as an antiſpaſmodic. Upon this ſuppoſition, it is a probable remedy; and, from the accounts of Dr. Butter, and ſome others, it ſeems to have been often uſeful: But, in our trials, it has often diſappointed us, perhaps from the preparation of it not having been always proper *.

1425.

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* Experience has not found that any of the antiſpaſmodics have ever been employed with much advantage in this diſeaſe. All of them are extremely nauſeous, and conſequently difficultly given to children who cannot well ſwallow pills.

1425. Of the tonics, I conſider the cup-moſs, formerly celebrated, as of this kind; as alſo the bark of the miſletoe: But I have had no experience of either, as I have always truſted to the Peruvian bark. I conſider the uſe of this medicine as the moſt certain means of curing the diſeaſe in its ſecond ſtage; and, when there has been little fever preſent, and a ſufficient quantity of the bark has been given, it has ſeldom failed of ſoon putting an end to the diſeaſe.

1426. When convulſive diſorders may be ſuppoſed to continue by the force of habit alone, it has been found that a conſiderable change in the whole of the circumſtances and manner of life has proved a cure of ſuch diſeaſes; and analogy has applied this in the caſe of the chincough ſo far, that a change of air has been employed, and ſuppoſed to be uſeful. In ſeveral inſtances I have obſerved it to be ſo; but I have never found the effects of it durable, or ſufficient to put an entire ſtop to the diſeaſe.

END OF THE THIRD VOLUME.